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Tropical Products Institute

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The market for rapeseed and its products in Western Europe with particular reference to the UK

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Ministry of Overseas Development

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Summaries

SUMMARY

The market for rapeseed and its products in Western Europe with particular reference to the UK

1. The oilseed rape is derived from species of the genus *Brassica* and for the purposes of this report the species referred to as rapeseed are *B. napus* and *B. campestris.*

2. Rapeseed is primarily a temperate crop and is one of a number of oilseeds grown for the purpose of securing oil and meal. Its oil content averages 42% and the oilcake content about 57%. The oilcake has an average protein content of 39%. World production of rapeseed was 7 million tonnes in 1973. Major producing areas are Canada, India, the People's Republic of China and Europe.

3. World trade in rapeseed has expanded rapidly since the early 1960's and in 1973 exports of rapeseed were over 1.7 million tonnes. Canadian exports dominate world trade and run at over 1 million tonnes a year. France and the Federal Republic of Germany (hereafter called West Germany) account for a further 200 000 tonnes of the rapeseed entering world trade in normal years.

4. There is also some trade in rapeseed products, although most of these are produced for consumption in the major markets for rapeseed, which have large seed-crushing industries. In 1973, exports of rapeseed oil from the main primary producing countries were 247 000 tonnes, Western Europe being the major consumer. World exports of rapeseed meal were 378 000 tonnes in 1973. Western Europe is the major supplier and importer of rapeseed meal, a situation which has arisen because of intra-European Economic Community trade.

5. The United Kingdom market for rapeseed was 121 000 tonnes in 1974. Until the mid-1960's the UK was totally dependent on imported supplies of rapeseed, but the oilseed is now being cultivated by UK farmers and home-produced supplies account for an increasing share of total supplies. Because of the support given to the production of oilseed crops within the EEC, UK domestic production of rapeseed is expected to continue to expand.

6. The major external suppliers of rapeseed to the UK are Canada, Poland, Demark, France, West Germany and the Netherlands. In 1972 Canada supplied 10 000 tonnes; the Netherlands 28 000 tonnes; and Sweden, which is not a consistent source of supply 55 000 tonnes, making it the largest single supplier.

7. The price of rapeseed rose steadily over the period covered by the report, but gathered momentum after 1970. In 1973, when prices of all oilseeds

shifted upwards, the price of rapeseed rose to an unprecedented level of £84/tonne in the first quarter of 1973. This trend continued in 1974 and by April, Canadian rapeseed (40 per cent oil content) was quoted at £185/ tonne.

8. The products of rapeseed are the oil and meal. Rapeseed oil is widely used as an ingredient in margarines, compound cooking fats and cooking oil. However, its use in these outlets is limited because of the oil's erucic acid content. In 1974 some 412 000 tonnes of vegetable and marine oils and animal fat were used in margarine and compound cooking fat. The use of rapeseed oil in these products was 21 000 tonnes. It is estimated that a further 25 000 tonnes of rapeseed oil are used in liquid edible oils and that the remainder of supplies is used in technical applications. When used as an industrial oil it is essential that the erucic acid content of the oil is at least 40%, a level which is unacceptable in edible uses.

9. Until 1973 rapeseed oil normally sold at a discount of about £6/tonne to its nearest competitor, soyabean oil. In 1974 the accepted price relationship became distorted largely as a result of an Italian ban on the use of rapeseed oil because of its erucic acid content. By September 1974, the price of rapeseed oil ex-store was £390/tonne and that of soyabean oil £460/tonne.

10. Rapeseed meal, like rapeseed oil, has quality factors which limit its use in animal feed formulations. The limit to rapeseed meal is imposed by the presence of glucosinolates in the meal which, when activated, can have toxic effects. Processing can eliminate the activating enzyme to some extent, but seed-breeding programmes have developed varieties in which the toxic elements have been more or less eliminated. At the present time the upper limits of inclusion of rapeseed meal in animal feed are recommended at: adult cattle 10%, fattening pigs 5%, laying hens 3% and broilers 10%.

11. The consumption of rapeseed meal in the UK in 1973 was 140 000 tonnes, of which 52% was provided for by meal imports. The major suppliers of rapeseed meal to the UK are Algeria, Pakistan, France, West Germany and Italy.

12. Rapeseed meal is bought as a source of protein and its price therefore reflects its value as such, compared with that from other sources. In practice, rapeseed meal sells at a discount to other protein sources, notably soyabean meal. However, if prices are compared on a price per 1% protein basis they are found to be very close. A sharp increase in rapeseed meal prices took place in 1973 and early 1974 because of the reduction in soyabean and fish meal supplies. In August 1974, the price of rapeseed meal was £74/tonne.

13. Rapeseed oil and meal are part of a highly competitive market because of the degree of interchangeability between oilseed products. Rapeseed oil competes mainly with soyabean, groundnut, sunflowerseed, cottonseed and sesame oil. Rapeseed meal competes with protein sources, such as other vegetable oilcakes, synthetic amino-acids and urea.

14. Within the UK the major part of the processing of and trading in rapeseed and rapeseed products is handled by a few large firms. In the rapeseed meal trade brokers and middlemen have maintained their position to the greatest extent.

15. The EEC market (of the original six members) is of importance because of the encouragement given to the production of rapeseed under the Common Agricultural Policy. By 1972, EEC production of rapeseed was over 1 million tonnes, with France producing over 720 000 tonnes. Total EEC utilisation of rapeseed in 1972 was 1.2 million tonnes. The major importer was Italy. Trade in rapeseed products in the EEC is characterised by the degree of intra-Community trade. The two largest markets for rapeseed oil

are France and Italy and those for rapeseed meal are France and West Germany, although in 1972 the Netherlands replaced West Germany as the second largest market for rapeseed meal in the EEC.

16. Imports of rapeseed and rapeseed meal are generally free of duty to the markets studied in the report. Imports of rapeseed oil usually face some tariff barrier.

17. Rapeseed is primarily a temperate crop; in 1972 developing countries accounted for only 29% of world production. Amongst the temperate producers, the UK is the only country where production is expected to expand rapidly. Because of the presence of erucic acid in rapeseed oil and glucosinolates in the meal, the future of rapeseed depends on the successful elimination of these undesirable elements. In January 1975 further impetus was given to this by an announcement from an EEC Committee recommending the use of rapeseed oils with low levels of long chain fatty acids, when the oils were for human consumption. In fact, the development of low or zero erucic strains of rapeseed is already well under way, with Canada leading the switch to cultivation of these strains. The development of low glucosinolate strains is not quite so advanced but, by 1980, if research progresses as planned, low erucic, low glucosinolate strains should be commercially available. The other threat to the future of rapeseed is competition from other oilseed products. The main competitors are palm oil, soyabeans and sunflowerseed. Some sources feel that soyabeans or sunflowerseed may offer better prospects to new producers but if, given all other factors, rapeseed remains the only viable oilseed possibility for a country, there would appear to be no reason to restrict development programmes if its production is competitive. However, a close watch will have to be kept on market trends.

RESUME

Le marché des graines de colza et de leurs produits en Europe Occidentale avec référence particulière au Royaume-Uni

1. Le colza à graines oléagineuses dérive d'espèces du genre *Brassica* et pour l'objet de ce rapport, les espèces désignées comme graines de colza sont *B. napus* et *B. campestris.*

2. Les graines de colza sont essentiellement une récolte de pays tempérés et elles font partie d'un certain nombre de graines oléagineuses cultivées pour la production d'huile et de farine. Leur teneur en huile est d'environ 42% et la teneur en tourteau d'environ 57%. Le tourteau a une teneur moyenne en protéines de 39%. La production mondiale de graines de colza était de 7 millions de tonnes en 1973. Les principales régions productrices sont le Canada, l'Inde, la République Populaire de Chine et l'Europe.

3. Le marché mondial de graines de colza s'est étendu rapidement depuis le début des années 60 et en 1973 les exportations de graines de colza étaient supérieures à 1,7 million de tonnes. Les exportations canadiennes prédominent sur le marché mondial et atteignent plus de 1 million de tonnes par an. La France et la République fédérale allemande (désignée plus loin par Allemagne) ont à leur actif 200.000 tonnes des graines de colza entrant sur le marché mondial dans les années normales.

4. Il existe également un certain commerce de produits des graines de colza, bien que la plupart de ceux-ci soient produits pour la consommation sur les principaux marchés de graines de colza qui possèdent d'importantes industries de broyage de graines. En 1973, les exportations d'huile de colza des principaux pays producteurs ont été de 247.000 tonnes, l'Europe

occidentale étant le principal consommateur. Les exportations mondiales de farine de colza ont été de 378.000 tonnes en 1973, l'Europe occidentale est le principal fournisseur et le principal importateur de farine de colza, situation qui s'est créée à cause du commerce intérieur de la Communauté Economique Européenne.

5. Le marché du Royaume-Uni pour les graines de colza était de 121.000 tonnes en 1974. Jusqu'au milieu des années 60, le Royaume-Uni dépendait totalement des importations de graines de colza, mais ces graines oléagineuses sont maintenant cultivées par les cultivateurs du Royaume-Uni et les approvisionnements de la production indigène représentent une part croissante des approvisionnements totaux. En raison de l'appui accordé à la production des récoltes de graines oléagineuses à l'intérieur de la Communauté Economique Européenne, on s'attend à ce que la production indigène de graines de colza du Royaume-Uni continue à se développer.

6. Les principaux fournisseurs extérieurs de graines de colza au Royaume-Uni sont le Canada, la Pologne, le Danemark, la France, l'Allemagne et les Pays-Bas. En 1972, le Canada a fourni 10.000 tonnes; les Pays-Bas 28.000 tonnes, et la Suède, qui n'est pas une source d'approvisionnement régulière, a fourni 55.000 tonnes, ayant été ainsi le plus important fournisseur.

7. Le prix des graines de colza n'a cessé d'augmenter au cours de la période couverte par le rapport, mais sa montée s'est accélérée après 1970. En 1973, lorsque les cours de toutes les graines oléagineuses se sont déplacés vers le haut, le prix des graines de colza est monté à un niveau sans précédent de £84/tonne dans le premier trimestre de 1973. Cette tendance s'est poursuivie en 1974 et au mois d'avril, les graines de colza du Canada (teneur en huile 40 pour cent) étaient cotées à £185/tonne.

8. Les produits des graines de colza sont l'huile et la farine. L'huile de colza est largement utilisée comme ingrédient dans les margarines, les matières grasses composées de cuisine et l'huile de cuisine. Toutefois, son utilisation dans ces débouchés est limitée à cause de la teneur de l'huile en acide érucique. En 1974, près de 412.000 tonnes d'huiles végétales et de poissons et de graisse animale ont été utilisées dans la margarine et la matière grasse composée de cuisine. L'utilisation d'huile de colza dans ces produits a été de 21.000 tonnes. On estime que 25.000 de plus tonnes d'huile de colza sont utilisées dans les huiles comestibles liquides et que le reste des approvisionnements est utilisé dans des applications techniques. Lorsqu'elle est utilisée comme huile industrielle, il est essentiel que sa teneur en acide érucique soit d'au moins 40%, taux inacceptable pour les emplois dans les produits comestibles.

9. Jusqu'en 1973, l'huile de colza se vendait normalement avec un rabais de £6/tonne par rapport à son produit de compétition le plus proche, l'huile de soja. En 1974, la relation des cours admis a été faussée surtout comme conséquence d'une interdiction proclamée par l'Italie de l'utilisation d'huile de colza à cause de sa teneur en acide érucique. En septembre 1974, le prix de l'huile de colza ex-store était de £390/tonne et celui de l'huile de soja de £460/tonne.

10. La farine de colza, comme l'huile de colza, a des facteurs de qualité qui restreignent son utilisation dans les formulations d'aliments pour animaux. La restriction à la farine de colza est imposée par la présence de glucosinolates dans la farine qui, lorsqu'ils sont activés peuvent avoir des effets toxiques. Le traitement peut éliminer dans une certaine mesure l'enzyme d'activation, mais des programmes de reproduction de graines ont développé des variétés dans lesquelles les éléments toxiques ont été plus ou moins éliminés. Actuellement, les limites supérieures d'inclusion de farine de colza dans les aliments pour animaux sont recommandées comme suit: bétail adulte 10%, porcs d'engraissement 5%, poules pondeuses 3% et poulets à rôtir 10%.

11. La consommation de farine de colza au Royaume-Uni en 1973 a été de 140.000 tonnes, dont 52% ont été fournis par les importations de farine. Les principaux fournisseurs de farine de colza au Royaume-Uni sont l'Algérie, le Pakistan, la France, l'Allemagne et l'Italie.

12. La farine de colza est achetée en tant que source de protéines et c'est pourquoi son prix reflète sa valeur comme telle, comparée à celle d'autres sources. En pratique, la farine de colza se vend avec rabais par rapport aux autres sources de protéines, notamment la farine de soja. Toutefois, si les prix sont comparés sur une base de prix pour 1% de protéines, ils sont très voisins. Une forte augmentation des cours de la farine de colza a eu lieu en 1973 et au début de 1974 à cause de la réduction des approvisionnements en farine de soja et de poisson. En août 1974, le prix de la farine de colza était de £74/tonne.

13. L'huile et la farine de colza font partie d'un marché très compétitif en raison du degré d'interchangeabilité des produits de graines oléagineuses. L'huile de colza se trouve en concurrence essentiellement avec les huiles de soja, d'arachide, de tournesol, de coton et de sésame. La farine de colza se trouve en concurrence avec des sources de protéines, telles que d'autres tourteaux d'origine végétale, les aminoacides et l'urée de synthèse.

14. Dans le Royaume-Uni, la plus grande partie de la transformation et du négoce des graines de colza et des produits du colza est entre les mains d'un petit nombre de firmes importantes. Dans le commerce de farine de colza, les courtiers et les revendeurs ont maintenu leur position dans une très large mesure.

15. Le marché de la CEE (des six membres initiaux) est important à cause de l'encouragement assuré à la production de colza dans le Programme Agricole Commun. En 1972, la production de graines de colza de la CEE était de plus de 1 million de tonnes, la France ayant produit plus de 720.000 tonnes. L'utilisation totale de graines de colza dans la CEE a été de 1,2 million de tonnes en 1972. Le principal importateur était l'Italie. Le commerce des produits de colza dans le CEE est caractérisé par le niveau du commerce intérieur à la Communauté. Les deux plus grands marchés pour l'huile de colza sont la France et l'Italie, et ceux pour la farine de colza sont la France et l'Allemagne, bien qu'en 1972 les Pays-Bas aient remplacé l'Allemagne en tant que deuxième marché par ordre d'importance pour la farine de colza dans la CEE.

16. Les importations de graines de colza et de farine de colza sont généralement exemptes de droits d'entrée sur les marchés étudiés dans le rapport. Les importations d'huile de colza se heurtent habituellement à des barrières douanières.

17. Le colza est essentiellement une récolte de pays tempérés; en 1972, les pays en voie de développement n'ont participé qu'avec 29% à la production mondiale. Parmi les pays producteurs tempérés, le Royaume-Uni est le seul pays où l'on s'attend à un développement rapide de la production. A cause de la présence d'acide érucique dans l'huile de colza et de glucosinolates dans la farine, l'avenir des graines de colza dépend du succès de l'élimination de ces éléments indésirables. En janvier 1975, une nouvelle impulsion a été donnée en ce sens par une déclaration d'un Comité de la CEE recommendant l'utilisation d'huiles de colza avec de faibles teneurs en acides gras à longue chaîne lorsque les huiles sont destinées à la consommation humaine. En fait, le développement de races de colza avec une teneur faible ou nulle en acide érucique est déjà en cours, le Canada venant en tête pour la culture de ces races. Le développement de races avec une faible teneur en glucosinolates n'est pas tout à fait aussi avancé, mais en 1980, si les recherches progressent comme prévu, il devrait y avoir sur le marché des races à faible teneur en acide érucique et en glucosinolates. L'autre menace pour l'avenir des graines

de colza est la concurrence d'autres produits de graines oléagineuses. Les principaux concurrents sont l'huile de palme, le soja et le tournesol. D'après certaines sources, le soja et le tournesol peuvent offrir de meilleures perspectives à de nouveaux producteurs, mais si, compte tenu de tous les autres facteurs, le colza reste la seule possibilité viable de graines oléagineuses, il semblerait qu'il n'y a pas de raison de restreindre le programme de développement de sa production si elle est compétitive. Toutefois, il faut surveiller de près les tendances du marché.

RESUMEN

El mercado de colza y sus productos en Europe occidental, con particular referencia al Reino Unido

1. La colza oleaginosa deriva de especies del género *Brassica* y para el propósito de este trabajo las especies a que se hace referencia son la *B. napus* y la *B. campestris.*

2. La colza es principalmente un cultivo de zonas templadas, constituyendo uno de los varios cultivos de semillas oleaginosas explotadas con el propósito de obtener aceite y harina. Su contenido en aceite es del orden del 42% y su contenido en torta alrededor del 57%. La torta tiene un contenido medio de proteínas del 39%. La producción mundial de colza se elevó a 7 millones de toneladas en 1973. Las principales zonas de producción son Canadá, India, la República Popular de China y Europa.

3. El comercio mundial de colza se ha expandido rapidamente desde principios de los años 60 y en 1973 las exportaciones superaron la cifra de 1,7 millones de toneladas. La exportaciones de Canadá dominan el comercio mundial y superan 1 millón de toneladas al año. Francia y la República Federal de Alemania (en adelante llamada Alemania) introducen en el mercado mundial más de 200.000 toneladas de colza, en años normales.

4. Hay también algún comercio de productos de colza, aunque la mayoría de éstos se producen para el consumo en los mayores mercados, los cuales poseen grandes industrias de prensado. En 1973, las exportaciones de aceite de colza, procedentes de los principales países productores, fueron de 247.000 toneladas, siendo Europa occidental el mayor consumidor. Las exportaciones mundiales de harina de colza fueron de 378.000 toneladas en 1973. Europa occidental es el principal suministrador e importador de harina de colza, originándose esta situación a causa del comercio interior de la Comunidad Económica Europea.

5. El mercado del Reino Unido fué de 121.000 toneladas en 1974. Hasta la mitad de los años 60, el Reino Unido dependía totalmente de los suministros importados, pero en la actualidad los agricultores del Reino Unido cultivan colza y la producción interna supone una creciente participación en el total de suministros. A causa del apoyo concedido a la producción de cosechas oleaginosas en la CEE, se espera que la producción de colza del Reino Unido continue expandiéndose.

6. Los principales países suministradores externos de colza al Reino Unido son Canadá, Polonia, Dinamarca, Francia, Alemania y Holanda. En 1972, Canadá suministró 10.000 toneladas; Holanda 28.000; y Suecia, que no es una fuente consistente de suministros, 55.000 toneladas, constituyéndose en el mayor suministrador individual.

7. El precio de la colza se elevó de forma constante durante el período cubierto por este trabajo, pero tomó gran impulso después de 1970. En 1973, cuando los precios de todas las semillas oleaginosas sufrieron una alza, el precio de la

colza se elevó a un nivel sin precedentes de 84 libras/tonelada en el primer trimestre de 1973. Estra tendencia continuó en 1974 y en el mes de abril la colza canadiense (40 por ciento de contenido en aceite) se cotizó a 185 libras por tonelada.

8. Los productos de la colza son el aceite y la harina. El aceite de colza se utiliza ampliamente como ingrediente de margarinas, grasas compuestas para cocinar y aceite para cocinar. Sin embargo, su utilización para estos fines es limitada a causa de su contenido en acido erúcico. En 1974, se utilizaron para la fabricación de margarina y grasa compuesta para cocinar unas 412.000 toneladas de aceites vegetales y marinos, y grasa animal. El uso de aceites de colza en estos productos fué de 21.000 toneladas. Se estima que otras 25.000 toneladas de aceite de colza se utilizan en aceites líquidos comestibles y que el resto de los suministros se utilizan en aplicaciones técnicas. Cuando se utiliza como aceite industrial es esencial que el contenido en acido erúcico del aceite sea por lo menos del 40%, nivel inaceptable en usos comestibles.

9. Hasta 1973, el aceite de colza se vendía normalmente a un precio inferior, en unas 6 libras/tonelada, que su más cercano competidor, el aceite de soja. En 1974, la relación de precios aceptada se distorsionó ampliamente, como resultado de una prohibición italiana sobre el uso de aceite de colza a causa de su contenido en ácido erúcico. En septiembre de 1974, el precio del aceite de colza en almacén fué de 390 libras/tonelada y el del aceite de soja 460 libras/tonelada.

10. La harina de colza, como el aceite, tiene factores cualitativos que limitan su uso en formulaciones para la alimentación animal. El límite para la harina de colza viene impuesto por la presencia de glucosinolatos, que activados pueden tener efectos tóxicos. El procesamiento puede eliminar la enzima activadora en alguna extensión, pero se han desarrollado programas de selección, obteniéndose variedades en las que los elementos tóxicos se han más o menos eliminado. En la actualidad los límites superiores de inclusión de harina de colza en la alimentación animal recomendados son: vacunos adultos 10%; cerdos en cebo 5%; gallinas ponedoras 3%; y pollo de carne 10%.

11. El consumo de harina de colza en el Reino Unido en 1973 fué de 140.000 toneladas, de las cuales el 52% estaba constituído por harinas importadas. Los principales suministradores de harina de colza al Reino Unido son Argelia, Pakistán, Francia, Alemania e Italia.

12. La harina de colza se compra como fuente de proteínas y su precio, por tanto, refleja este valor como tal, comparado con el de otras fuentes. En la práctica, la harina de colza se vende a un precio inferior al de otras fuentes de proteínas, especialmente la harina de soja. Sin embargo, si se comparan los precios sobre un precio base para un 1% de proteínas, se encuentra que los precios son muy similares. En 1973 y comienzos de 1974, tuvo lugar un rápido incremento del precio de la harina de colza a causa de la reducción de los suministros de harinas de pescado y soja. En agosto de 1974, el precio de la harina de colza fué de 74 libras/tonelada.

13. La harina y el aceite de colza forman parte de un mercado altamente competitivo a causa del grado de sustitución de los productos de semillas oleaginosas. El aceite de colza compite principalmente con el de soja, cacahuete, girasol, algodón y sésamo. La harina de colza compite con fuentes de proteína, tales como otras tortas oleaginosas vegetales, aminoácidos sintéticos y urea.

14. Dentro del Reino Unido la mayor parte del procesamiento y comercio de la colza y sus productos los realizan unas pocas firmas importantes. En el comercio de la harina de soja los corredores e intermediarios han mantenido su posición en el máximo grado.

15. El mercado de la CEE (de los seis miembros originales) es importante a causa del fomento decidido a la producción de colza bajo la Política Comunitaria Agrícola. En 1972, la producción de colza de la CEE superó 1 millón de toneladas, produciendo Francia más de 720.000. El consumo total de colza de la CEE, en 1972, fué de 1,2 millones de toneladas. El principal importador fué Italia. El comercio de productos de colza en la CEE se caracteriza por el grado de intercambios dentro de la propia Comunidad. Para el aceite de colza los dos principales mercados son Francia e Italia, y para la harina Francia y Alemania, aunque en 1972 Holanda sustituyó a Alemania como el segundo mercado más importante de la CEE para la harina.

16. Las importaciones de colza y harina de colza están generalmente libres de derechos en los mercados estudiados en este informe. Las importaciones de aceite de colza tienen que hacer frente normalmente a algunas tarifas aduaneras.

17. La colza es en principio un cultivo de zona templada; en 1972 los países en vías de desarrollo aportaron solamente el 29% de la producción mundial. Entre los países productores de la zona templada, el Reino Unido es el único país donde se espera que la producción se expanda rápidamente. A causa de la presencia de ácido erúcico en el aceite de colza y de glucosinolatos en la harina, el futuro de la colza depende del éxito en la eliminación de estos elementos. En enero de 1975 se ha concedido nueva importancia a este problema, a causa de una comunicación de un Comité de la CEE recomendando el uso de aceites de colza con bajos niveles de ácidos grasos de larga cadena, cuando los aceites se utilicen para el consumo humano. De hecho, el desarrollo de variedades de colza con nivel bajo o nulo de ácido erúcico se encuentra ya en vías de solución, siendo Canadá el pais más adelantado en cuanto al cambio hacia el cultivo de estas variedades. El desarrollo de variedades con bajo contenido en glucosinolato no está todavía tan avanzado, pero se espera que en 1980, si la investigación progresa de acuerdo con los planes establecidos, podrá disponerse de variedades comerciales de colza con bajos niveles de ácido erúcico y glucosinolato. Otro peligro para el futuro de la colza es la competencia de productos procedentes de otras semillas oleagnisosas. Los principales competidores son la palma de aceite, la soja y el girasol. Algunos autores creen que la soja o el girasol pueden ofrecer mejores perspectivas a los nuevos productores; pero si, teniendo en cuenta todos los demás factores, la colza continua siendo la única posibilidad viable de cultivo de semillas oleaginosas en un país dado, no existe ninguna razón para restringir su desarrollo, si su producción es competitiva. No obstante, habrá que mantener una estrecha vigilancia sobre las tendencias del mercado.

Chapter 1

Introduction and definition of rapeseed

This study analyses the United Kingdom market for rapeseed and its products. A brief survey of markets in the six original member countries of the European Economic Community (EEC) is also made.

Oilseeds are valued for their oils, which are used for both edible and industrial purposes, and for the oilcake or meal which remains after crushing and which is used as a source of protein in animal feeds. Any analysis of the market for a particular oilseed cannot be made in isolation from the factors which govern the market for competing oilseeds and their products. This is because the demand for fat can be met by vegetable oils, marine oils and animal fats whilst that for protein is largely met by vegetable oilcakes, fishmeal, animal by-products and synthetic amino acids. The degree of substitutability is further complicated by the fact that the products of oilseeds themselves are also to some extent interchangeable.

The oilseeds that compete most closely with rapeseed are soyabeans, sunflowerseed and groundnuts. Their oils have a reasonably good degree of substitution, but the meals have less interchangeability. Because of the degree of substitution between oilseeds and their products and the seeds' differing yields of oil and meal, complex price relationships exist within the market, as efforts are made by producers and crushers to balance the supply of oil and meal in relation to demand. In the case of rapeseed, the oilseed to which its demand most closely relates is soyabean. Both oilseeds have sufficiently compatible properties to allow for ease of substitution of the oils, although the erucic acid content of rapeseed oil does limit its use in some formulations. The meals are not substitutable to the same degree because of factors which limit the addition of rapeseed meal to certain compound animal feeds.

Unlike other oilseeds traded on world markets, rapeseed does not derive from one species, but may come from several species belonging to the genus *Brassica.* Within this genus there are species which may be referred to as mustard seed. For the purposes of this report the following distinctions between rapeseed and mustard seed are made. Species which are regarded as rape are *Brassica napus* and *B. campestris.* Species which are regarded as mustards are listed below. *B. nigra* is commonly known as black mustard and was once extensively cultivated for its seed, which was used as a condiment. This species has now largely been replaced by *B. juncea* which is known as Indian or brown mustard. Because of its importance in Asia it is best known as an oilseed plant, but in Western Europe it has largely replaced *B. nigra* in condiment mustard. Because of its importance in India and Pakistan *B. juncea* is regarded as a commercial variety of rapeseed as Table (I) below illustrates. Other species known as mustards are *B. carinata,* cultivation of which is confined to Ethiopia and neighbouring countries and which has little importance in international trade, and *Sinapsis alba,* or white mustard, which is important as a condiment.

Table I below lists definitions of the main commercial varieties of rapeseed.

Table I

Definition of rapeseed

Botanical (Latin) name	Correct English	Synonyms
Brassica napus		
ssp* *oleifera*	Winter rape	Oil rape, rapeseed, swede rape,
forma biennis	Summer rape	oilseed rape
forma annua		
Brassica campestris		
ssp* *oleifera*	Winter turnip rape	Rapeseed, oil turnip
forma biennis	Summer turnip rape	
forma annua		
forma annua var. *chinensis*	Summer turnip rape	Chinese mustard
,, ,, var. *pekinensis*	Summer turnip rape	Celery cabbage, Chinese kale
,, ,, var. *dichotoma*	Summer turnip rape	Toria
,, ,, var. *trilocularis*	Summer turnip rape	Sarson
Brassica juncea	Brown mustard	Leaf mustard, Indian mustard

*ssp:—subspecies

Source: *Rapeseed,* L. A. Appelqvist and R. Ohlson Ed., 1972, Elsevier Publishing Co, Amsterdam.

Of the species of *Brassica* listed in the table, rapeseed from Europe is predominantly *B. napus* (Winter rape) and that from Canada *B. campestris* (Summer turnip rape). However, rapeseed from the Far East may be either summer turnip rape, brown mustard (*B. juncea*) or a mixture of these, as often the two species are grown together. Seed from India and Pakistan is sometimes referred to as 'toria' or 'sarson', but these names do not identify particular species but rather describe the several types of early sown *Brassica* (toria) and the late sown *Brassica* (sarson). In some regions sarson may be summer turnip rape and in others brown mustard.

Buyers in the UK make a distinction between rapeseed and mustard and dislike the presence of mustard in rapeseed meal imports as it is not wholly acceptable in animal feeds because of its pungent properties. Therefore in this report the same distinction is made and rapeseed only is the commodity dealt with.

The oil content of rapeseed varies according to the different production areas and also the different varieties grown. Generally speaking, however, rapeseed contains about 42% oil and 57% meal. The oil is used as an edible oil in the production of margarine, compound cooking fats and cooking oils. It also has technical uses and is often used for industrial purposes, when it is further processed into blown and sulphonated oils. For technical purposes, a high erucic acid content is desirable but supplies to this market may be adversely affected bcause of the greater importance of rapeseed oil for edible purposes. Erucic acid is undesirable in this outlet and as a result low erucic varieties of rapeseed have been developed.

Rapeseed meal is used as an ingredient in compound animal feed. Its use is limited because of its glucosinolate content. Although glucosinolates can be inactivated by processing methods, these are not infallible: therefore seed-breeding programmes have been established to develop not only low erucic rapeseed, but also glucosinolate-free rapeseed. Low erucic varieties of rapeseed are already available and Canada, the leading supplier of rapeseed to world markets, is likely to have glucosinolate-free strains in use by 1977.

Chapter 2

World production and trade in rapeseed

A summary of world rapeseed production between 1964 and 1973 is given in Table A1 of the statistical appendix.* In the period 1964–1968 production averaged 5.0 million tonnes per year, and between 1969–1973 it averaged 6.6 million tonnes per year. Production peaked in 1971 at 7.9 million tonnes, whilst in 1972 and 1973 levels were 6.6 and 7.0 million tonnes respectively.

The world's major producers of rapeseed are Canada, India, the People's Republic of China, the EEC and Eastern Europe. From the point of view of world trade, however, India and China have little importance, domestic consumption accounting for practically all production. Indeed, as shown in Table A2, world rapeseed exports are less than one quarter of total world production, and the totals shown therein also contain some quantities of mustard seed.

Of the world's producer/exporter countries, Canada is the most important. Canadian production of rapeseed (Table A1) showed remarkable expansion between 1964 and 1970, when it increased from 0.3 million tonnes to 1.6 million tonnes. A record output of 2.2 million tonnes was achieved in 1971, but later figures indicate a sharp downturn. In 1972 output was 1.3 million tonnes and in 1973 it was 1.2 million tonnes. The initial impetus to Canadian production was largely due to a move out of wheat by farmers in the mid-1960s when wheat was in surplus and had therefore declined in profitability. The recent decline in rapeseed production represents a response to changing market conditions whereby competing grains offered better returns to farmers. Growers were also concerned over higher than normal losses of rapeseed from pests and diseases. Expectations for the next few years are for a recovery in acreage and thus a return of production to the level achieved in 1971[1].

Following Canada in importance as a producer/exporter are the countries of Western Europe, with France and Sweden dominating. Table A1 shows West European production rising over the period 1964 to 1973 to reach just over 1.4 million tonnes in 1972 and 1973. French and West German production expanded until 1972 largely because of the stimulus given by the EEC's Common Agricultural Policy (CAP) – discussed below. French production reached 722 000 tonnes and West German output 249 000 tonnes. In 1973 both countries fell short of the production levels attained in 1972. Sweden is a traditional grower of rapeseed, and her production rose from 181 000 tonnes in 1964 to 339 000 tonnes in 1973.

It should also be noted that countries of little importance in global terms as rapeseed producers, such as the Netherlands and the UK are growing increasing quantities of rapeseed. The Netherlands produced over 40 000 tonnes in 1972 and 1973, more than four times the 1964 level. Until 1967 the UK was an insignificant producer of rapeseed, which was regarded as a cereal break-crop rather than having commercial significance in its own right. In 1973, 31 000 tonnes were produced with greater quantities forecast for the future owing to incentives offered by the EEC agricultural policy.

*All tables in the statistical appendix will be prefixed with the letter A throughout this report.

Other producing countries worth noting are in Eastern Europe, especially the German Democratic Republic (East Germany) and Poland. In Latin America, Chile is a major producer of rapeseed, although this has had little impact on the amount of rapeseed entering world trade.

Trade in rapeseed has expanded steadily. World exports of rapeseed from the main primary producing countries reached 1.7 million tonnes, in 1973.[2] An indication of the rate of expansion experienced is shown by the fact that world exports of rapeseed and mustard seed totalled only 350 000 tonnes in 1963 (Table A2). Many countries put rapeseed and mustard seed together in one category in their trade statistics, as they are both *Brassica* species. However, mustard seed accounts for only a small proportion of these figures and whenever possible any reference to mustard will be avoided as members of the trade dealing with oilseeds treat these crops as separate items.

The major countries contributing to this rise in world exports have been Canada, France and Sweden. Canadian exports now run at a level of over one million tonnes. In 1963 they were 162 000 tonnes. In recent years France and Sweden have accounted for 300 000–400 000 tonnes of the seed entering world trade. In 1973 Swedish exports were 161 000 tonnes and French supplies were 154 000 tonnes.

A summary of world imports of rapeseed (Table A3) shows that Western Europe and Japan are the major markets. In 1973 imports into Western Europe totalled 778 000 tonnes. This market is dominated by members of the EEC. However, the most rapid growth in demand for rapeseed between 1963 and 1973 occurred in Asia. Japanese requirements accounted for the bulk of this demand.

Apart from trade in the oilseed itself, there is also considerable trade in the oil and meal.* This of course involves not only oil and meal from seed producing countries, but oil and meal crushed by importers of rapeseed, the most notable of which is Japan. World exports of rape, colza, (the French term for oil from *B. napus*) and mustard oils from 1963 to 1973 are shown in Table A4. In 1973 world exports were 381 000 tonnes. Other sources indicate that exports of rapeseed oil alone, from primary producing countries were 247 000 tonnes.[2]

Table A5 gives a summary of major world imports of rapeseed oil. Western Europe is by far the largest market, with trade between members of the EEC running at a high level. The market in Africa expanded notably in the period, most demand being generated by Algeria and Morocco.

Rapeseed meal is also traded on a large scale. Table A6 shows world exports and imports from 1963–1973. The table shows a fairly steady increase in trade until 1973 when volume decreased, although with exports at 378 000 tonnes this was more than double the 1963 level. Again, Western Europe is the dominant supplier, providing 65 per cent of world requirements in 1973. Western Europe is also the major market for rapeseed meal, indicating the high level of trade between European countries in this product.

*The term meal will be used throughout this report, although some production and trade may be in rapeseed cake.

Chapter 3

The UK market for rapeseed

In quantitative terms, demand for rapeseed meal, which is met by imports and production from UK crushings of rapeseed, takes up the largest part of the market. The major proportion of supplies is imported, but domestic production is steadily increasing. Most of the rapeseed oil consumed in the UK is from crushings of imported and local seed. Imported supplies of rapeseed oil are of minor significance. The quantities of rapeseed and rapeseed products available in the UK necessarily fluctuate because of the substitution factors which prevail in the oilseeds market.

PRODUCTION AND IMPORTS

Imports of rapeseed between 1961 and 1972 are shown in Table A7. These, together with the UK's own domestic production of rapeseed, indicate the size of the market, since exports and re-exports of rapeseed are insignificant.

The total import figures in Table A7 show a relatively small, but growing market between 1961 and 1964. From 1965, when imports reached 33 000 tonnes, imports fluctuated, but the overall trend was upward. Although 1973 imports (Table A3) were somewhat lower, 95 000 tonnes, than the record achieved in 1972, a market size of 126 000 tonnes, continued the expansionary trend. The 1974 figures showed a continuation in the growth of domestic production, but a decline in imports, so that the 1974 market fell short of the 1973 level by 5,000 tonnes. The overall growth in the UK market between 1968 and 1974 is illustrated by Table II.

Table II

Total UK market for rapeseed 1968–1973

'000 tonnes

Year	Production (a)	Imports (b)	Total
1968	13	81	94
1969	12	78	90
1970	8	50	58
1971	10	65	75
1972	14	103	117
1973	31	95(c)	126
1974(d)	55	66	121

Notes: (a) As given in Table A1
(b) As given in Table A7
(c) As given in Table A3
(d) *Tropical Products Quarterly,* **XVI** (1), 1975, Commonwealth Secretariat.

In 1974 UK production accounted for 45% of the total demand for rapeseed production, but both short and long-term projections indicate an increase in rapeseed production, although these vary quite widely. The Ministry of Agri-

culture estimate that by 1980 the UK acreage could increase by two or two and a half times the 1974 level of 61 000 acres. Given an average yield of 18 cwt/acre (the level attained in 1974) production could rise to between 110 000 and 127 000 tonnes. Other estimates are more optimistic, although based on a shorter time scale. One source of information predicted that the area given over to rapeseed would be 200 000 acres by 1976, yielding 183 000 tonnes of rapeseed.[3] A projection to 1978 sees production increasing to between 200 000 and 300 000 tonnes of seed.[4] The major difference between the Ministry of Agriculture's estimate and the projections is that the latter see the rate of expansion experienced in acreage in recent years continuing, whilst the former see some stabilisation of the trend. However, all the projections show a definitive increase in production which substantially exceeds the present UK market size. Therefore, imported rapeseed and rapeseed products could be displaced in the longer term by the domestic crop.

SOURCES OF SUPPLY

Despite its increasing domestic output of rapeseed, the UK relies on imports for over half of its supplies. Before the mid-1960's this reliance was 100%. Table A7 shows that the most consistent suppliers to the UK market in the period covered were Canada and the Netherlands. Canadian supplies increased from 2 900 tonnes to 9 900 tonnes and imports from the Netherlands climbed from 1 200 tonnes to 28 000 tonnes in 1972. The traditional producers of rapeseed, Sweden and Eastern Europe also exported to the UK. Swedish supplies were sporadic, but in 1972, they were almost 56 000 tonnes making Sweden the largest single supplier and accounted for over half UK imports. Polish and East German supplies were of particular significance in 1967 and 1968 when they were in fact the main sources of rapeseed, but after 1969 other European sources came to the forefront.

The increase in imports in 1972, 59% over 1971 levels, was due to larger supplies being available on world markets. Of most significance to the UK were the larger shipments from the Netherlands and Sweden, from where the bulk of increased imports came. In 1973, imports totalled 95 000 tonnes and in 1974, 66 000 tonnes.

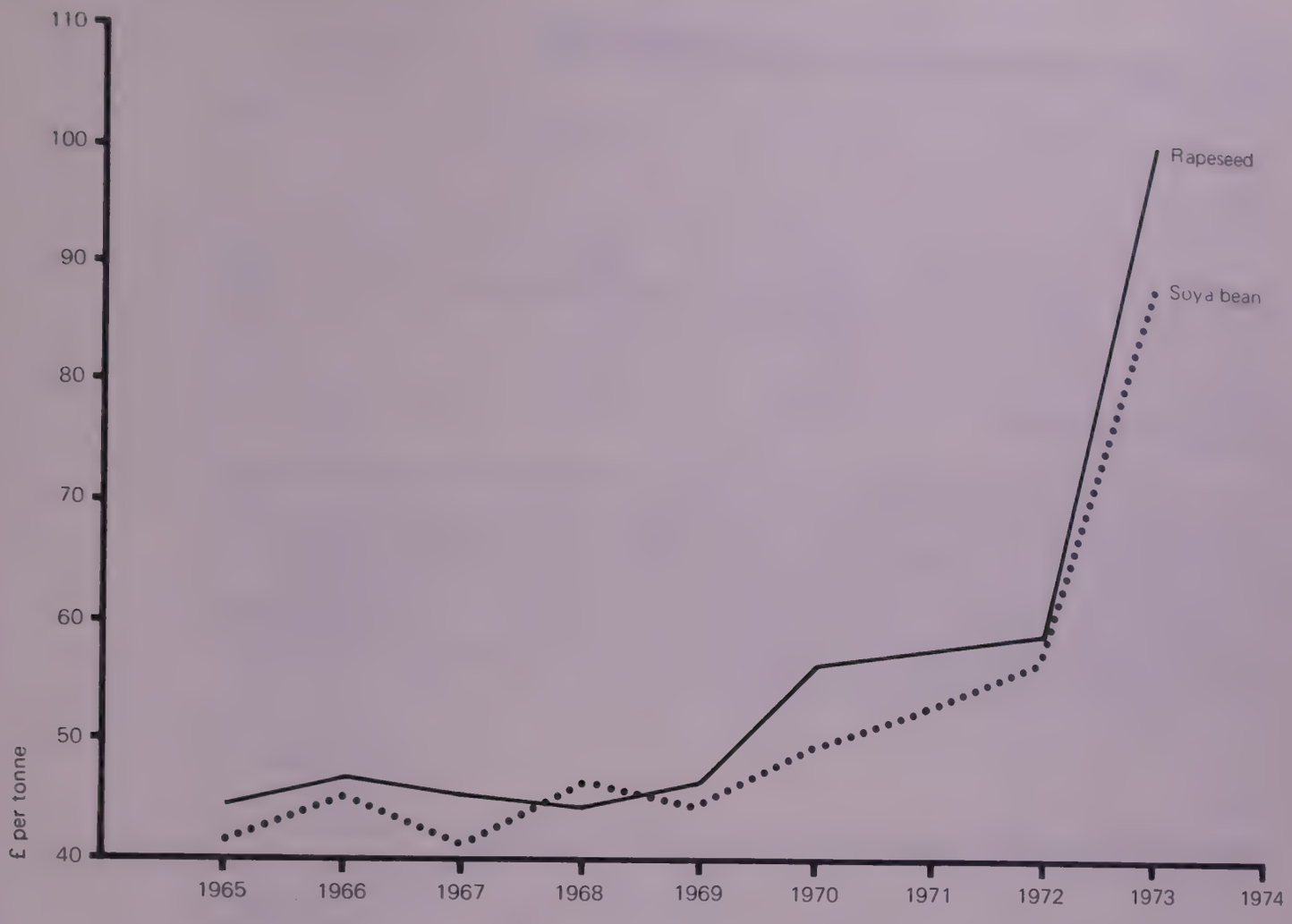
As a result of the increase in imports of rapeseed this oilseed together with soya, dominates the UK crushing industry. In 1972, soya and rapeseed accounted for nearly 80% of the total of oilseeds crushed in the UK.[5] The significance of this in meal and oil terms is discussed in the following sections dealing with those two products.

PRICE

The annual average import price of Canadian rapeseed, cif, European ports is listed in Table A8 for the period of 1965–1973. As rapeseed and soyabean prices tend to move together, import prices of soyabean are also listed in the Table. The graphs in Figure 1 illustrate the prices in Table A8.
Up until 1969 rapeseed prices remained fairly stable at an annual average of £45/tonne. From 1969, however, price rises gathered momentum because of changing market conditions. In 1970 oilseeds and vegetable protein sources became increasingly scarce with the result that price rises became inevitable. Despite the fact that in 1971 and 1972 there were higher export availabilities of rapeseed, prices continued to rise because of a shortfall of three major competing oilseeds, soya, groundnuts and sunflower. Thus by 1972 the price of rapeseed averaged £59/tonne. The year 1973 was one of uncertainty in oilseed markets and this was reflected by the unprecedented rises in the prices of all oilseeds. Rapeseed almost doubled in price and averaged £103/tonne over the year. The two major contributory factors were, firstly, an increased demand

Figure 1

A comparison of oilseed import prices



for protein which was further intensified by the shortage of fish meal (caused by overfishing in Peruvian waters) and, secondly, the US embargo in June on exports of soyabeans and their products. Then in November 1973 the price was further affected by the fuel crisis, and trade sources quoted a price of around £133/tonne. In 1974 there was a continued upward trend in rapeseed prices, despite early forecasts that a record American soyabean crop and Russian sunflower crop would provide an oilseed surplus.

Price quotations have not appeared on a regular basis in 1974, but are available up until April 1974, after which time prices, if quoted at all, were nominal. In February the average price per tonne for 40% Canadian rapeseed, cif, nearest forward shipment was £185. In April this dropped to £151/tonne.

Chapter 4

The UK market for rapeseed oil

SOURCES OF SUPPLY

Because of the degree of interchangeability between vegetable oils it is unrealistic to study the demand for rapeseed oil in total isolation from the demand for other oils. Those oils with which rapeseed oil most closely competes are groundnut, soya, sunflower, cottonseed and other vegetable oils which can be grouped as liquid edible oils. Rapeseed oil also competes with marine oil. To place rapeseed in some sort of perspective therefore, Table III below shows supplies of all liquid edible vegetable oils and marine oils since 1964.

Table III

Estimated UK supplies of vegetable and marine oils 1964–1972

'000 tonnes

Year	Vegetable Oils (liquid edible)	Marine oils	Total liquid edible & marine oils
1964	204	116	320
1965	229	179	408
1966	246	194	440
1967	267	298	565
1968	333	226	559
1969	327	230	557
1970	320	206	526
1971	252(i)	235	487
1972	266(i)	225	491

Note: (i) UK production of refined and deodorised vegetable oils.

Sources: *Vegetable oils and oilseeds, a review,* Commonwealth Secretariat, London. 1973.

Annual Proceedings of the International Association of Seed Crushers, Killarney Congress, 1973.

Between 1968 and 1971 rapeseed oil supplies accounted for an average 14% of total liquid edible vegetable oils available and for only 8% of supplies if marine oils were taken into account. The year 1972 showed a sharp upswing, such that rapeseed oil accounted for 20% of vegetable oil supplies and 11% of total supplies. Although rapeseed oil is one of the minor oils when related to total supplies, it is of considerable importance to the UK crushing industry as shown by Table IV.

The figures in Table IV show that, with the exception of 1970 when rapeseed crushings were exceptionally low, partly because of the supply situation and partly because one UK mill was not in a position to crush any rapeseed that year, crude rapeseed oil production accounted for an average 80% of rapeseed oil supplies available between 1968 and 1973.

Table IV

UK total crush of oilseeds and rapeseed and rapeseed oil supplies 1968–1973

'000 tonnes

Year	Total oilseeds crushed	Rapeseed crushed	Crude rapeseed oil production	Available supplies of rapeseed oil: Mill production plus net trade in oil
1968	604.5	88.4	38.6	49.8
1969	595.4	84.9	35.7	47.8
1970	547.6	48.5	18.5	32.5
1971	545.6	72.4	29.5	34.5
1972	771.1	114.4	45.1	54.9
1973	1 056.6	117.9	42.8	55.9(a)

(a) Provisional figures.

Source: *Tropical Products Quarterly,* **15** (1), Commonwealth Secretariat, London 1974.

Imports of rapeseed oil are shown in Table A9 for the period 1963 to 1972. Import levels have fluctuated from as little as 20 tonnes in 1967 to almost 15 000 tonnes in 1970. The main suppliers of oil to the UK are Canada (since 1970), Poland and the Netherlands. Generally speaking oilseed crushing has been declining in the UK over the past twenty-five years. In 1961 oilseed crushings by UK mills were 950 000 tonnes, and it was not until the opening of a soya bean crushing mill by Unilever in 1972 that output recovered. However, rapeseed did not share in this decline.

For an oilseed to maintain its share of crushings in an industry, the processor must be assured of a good return on his operations. Because the industry is serving two markets, the requirements of each are highly unlikely to balance at any one time. The seed crusher therefore must alter his throughput of oilseeds to try to achieve this. Sometimes there is a build up of oilmeals because of factors operating in the protein market. This can in turn cause a decline in prices until the point is reached where crushers are no longer making a profit from their meal output although the return on oils may be adequate. As a result of this the rate of crushings is slowed down until the meal supplies are more in keeping with demand, but this also causes a relative decrease in oil output with the result that oil prices are pushed up. In the case of rapeseed crushing in the UK it would appear from the figures that this oilseed has generally offered crushers good returns and therefore has maintained its share of total crushings.

The UK has also a substantial refining industry. Production of refined and deodorised rapeseed oil is shown in Table V for 1968–1972.

Table V

UK production of refined rapeseed oil 1968–1972

'000 tonnes

1968	1969	1970	1971	1972
40.8	43.8	28.8	29.0	45.7

Source: *IASC Congress Proceedings* 1971 and 1973

All crude oil is refined before its eventual end use. Imported oil is generally at least partially refined in the country of origin.

USES OF RAPESEED OIL

Rapeseed oil is imported both as an edible vegetable oil and as a technical oil. Its edible qualities have recently been the subject of criticism because of the

content of erucic acid in the oil. Some experiments have shown that even moderate amounts of the oil in the diets of experimental animals can produce serious pathological changes especially on the heart and skeletal muscles.[6] It has been suggested that before human muscle could be affected, rapeseed oil would have to account for 5.6% of the total calorie intake – in the UK the percentage is 1.2%.[7] However the implications of these experiments together with the fact that some opinion holds that the presence of any erucic acid is undesirable, have led to increasing cultivation of low erucic acid varieties of rapeseed.

Despite this events in 1974 led to further controversy over the future of rapeseed oil. In January 1974, the Italian health administration banned the sales of oils containing more than 15 per cent erucic acid and gave companies until September 1974 to sell off their stocks. However, in April 1974 the chairman of an Italian company producing vegetable oil was arrested and charged under the labelling laws for not listing accurately ingredients on his oil packs. The rapeseed oil sold was said to contain 46% erucic acid. In effect, therefore, this arrest pre-empted the September deadline. The stated reason for the ban was that Italian research had shown a link between erucic acid and heart disease, lesions of the digestive tract, and liver, kidney and reproductive system ailments. The repercussions of this were felt in other markets which use large quantities of rapeseed oil. In France, a pressure group of eleven consumer organisations was formed to persuade vegetable oil manufacturers to stop using rapeseed oil in their blends.[8] This followed on directly from the Italian action, but opinion in France has been steadily mounting against rapeseed oil, since conflicting research results were published. In 1967 research in France established that rats fed on rapeseed oil developed heart diseases. The results of these experiments were not published until 1970, by which time the French acreage of rapeseed had expanded under government encouragement. When they were published, a committee was set up to investigate the results and declared that there was in fact no evidence to suggest rapeseed oil was harmful. In February 1974 the matter was brought to the forefront again when one of the research institutes represented on the 1971 Committee dissociated itself from the clearances given to the product.[9] With the continued debate on the safety of rapeseed oil, the EEC Commission instituted a Scientific Committee for food in April 1974 to investigate the properties of rapeseed oil. The Committee delivered its opinion in January 1975. It studied not only the conventional rapeseed oils, but also the oils from *Brassica* hybrids which have an erucic acid content of 5% or less. Their conclusions and recommendations dealt with the effects of rapeseed oils on animals and on humans. They concluded that rapeseed oils rich in long chain fatty acids, were liable to cause lesions on a number of species of animals. Erucic acid was mainly incriminated, but its sole responsibility was still under discussion. On the other hand the low erucic acid rapeseed oil neither slowed down the growth of young animals nor caused such severe lesions as the oils rich in erucic acid. The effects of rapeseed oil on man were also studied. It was found that the few investigations and studies conducted on man had not provided evidence of adverse effects to date, but the Committee recommended that such studies should be continued. In view of the Committee's findings two overall recommendations were made. Firstly, as a matter of prudence, it was recommended that when rapeseed oils were used for human consumption, preference should be given to oils with low levels of long chain fatty acids, ie. the low erucic acid types. Secondly, it was felt that further research on long-chain fatty acids and more generally on all oils and fats used in food was necessary, for the effects reported for rapeseed oils were not necessarily unique to these oils. The conclusions of the Committee would therefore seem to have allayed the fears of some producers that the use of rapeseed oil might be restricted completely and will also encourage continued expansion of the cultivation of low or zero acid varieties of rapeseed.

EDIBLE USES

As an edible oil rapeseed has three main uses in the UK: as an ingredient in margarine and compound cooking fat and as a cooking oil.

The level of demand for oils and fats for human consumption has stabilised in recent years, although the pattern of consumption has changed with a trend away from solid fats into liquid oils. There has also been a trend away from animal fats to vegetable fats. This is particularly significant in the trend away from butter to margarine. This is due to the fact that the consumption of margarine is closely related to the price of butter. In recent years, butter prices have increased and this is likely to continue as UK prices come into line with EEC levels. In 1973 and 1974 this trend was halted as the price of butter was stabilized owing to subsidies, making margarine the more expensive product. Other factors which may have reinforced the trend away from butter are the use of polyunsaturated fats in some margarines, which not only add to the convenience of margarine by giving it a softer texture than butter, but are also said to be less likely to contribute to high cholesterol levels in the blood which may contribute to heart disease. Sunflower oil in particular seems likely to benefit from a continuation of this trend. Table VI below shows UK per capita consumption of compound cooking fats and other edible oils and fats.

Table VI

Estimated supplies per head per annum of oils and fats products moving into consumption in the UK 1967–1974

kg/capita

Product	1967	1968	1969	1970	1971	1972	1973	1974 (provisional)
Butter	9.3	9.0	8.9	8.9	8.2	7.2	7.6	8.7
Margarine[1]	5.0	4.9	5.2	5.0	5.4	5.9	5.4	5.0
Compound cooking fats and lard	5.6	5.4	5.4	5.5	5.1	5.6	5.4	5.6
Other edible oils and fats	5.2	6.2	6.1	6.3	6.1	5.6	6.4	. . .
Total converted to fat content:	22.7	23.1	23.2	23.2	22.5	22.2	22.7	. . .

Note: (1) Net supplies, ie not including ingredients shown on separate items elsewhere in the Table, eg butter and lard.
. . . not available.

Source: 1967–1972 *Trade and Industry,* August 30th, 1973, p 460–461, HMSO, London
1973 *Trade and Industry,* September 5th, 1974, p 515, HMSO, London.
1974 *Tropical Products Quarterly, XVI* (1) 54, Commonwealth Secretariat, London.

Rapeseed oil, provided that it can take full advantage of the interchangeability of vegetable oils, is likely to benefit from the trends in the fats and oils market because its prime use as an edible oil is in cooking oils and margarine. Official statistics are available for the consumption of rapeseed oil in margarine and compound cooking fat and these are listed below in Table VII.

Table VII

UK consumption of refined rapeseed oil in margarine and compound cooking fat, 1967–1974

'000 tonnes

	1967	1968	1969	1970	1971	1972	1973	1974 (provisional)
Utilisation of all oils and fats used in the manufacture of margarine	260	261	279	277	297	317	295	261
Of which rapeseed oil:	6	12	13	2	4	10	11	16
Utilisation of all oils and fats used in the manufacture of compound cooking fats	140	140	142	137	146	150	197	151
Of which rapeseed oil:	4	6	6	5	4	7	7	5

Source: 1967–73 Ministry of Agriculture, Fisheries and Food
1974 *Tropical Products Quarterly,* XVI, (1), Commonwealth Secretariat, London

As Table VII shows, the quantities of rapeseed oil used in margarine and compound cooking fat fluctuated from year to year, and in fact its share of total oils and fats consumption in the products also fluctuated. Not only does the proportion of rapeseed oil expressed as a percentage of total vegetable oils used in these ingredients vary, but it is also variable when expressed as a total of rapeseed oil available. The major reason for this is the interchangeability of vegetable oils. Manufacturers are not compelled to use rapeseed oil in a stated proportion in their formulations, as for example is the case in Sweden and West Germany. Rapeseed oil does not have special qualitative advantages over its competitors in these uses; therefore it is used only when it has a comparative price advantage over alternative ingredients. Within the vegetable oils group the main competitor is soya, whilst overall, marine oils in particular are regarded as a major competing ingredient.

Oil not accounted for in margarine or cooking fat formulations is used as a liquid edible oil or in technical applications. No figures are available regarding quantities but some indication can be given.

It is estimated that cooking oils and salad dressing contain about 7% of rapeseed oil.[9] The main outlet for liquid oils is the catering trade, although there is also household use. Rapeseed oil is usually blended with soya bean oil. From UK population figures and the consumption data in Table (VI), and given the assumption that these oils contain on average 7% of rapeseed oil, annual consumption corresponds closely to reliable trade estimates of 25 000 tonnes per annum. It is thought that if limitations in the use of rapeseed oil for edible purposes are overcome, then its proportionate use in edible oils and fats will increase.

TECHNICAL USES

Once all the edible purposes to which rapeseed oil is applied have been covered, the remaining tonnage is used for technical application. In the UK a reliable estimate which has been given ranged from 4 000 to 6 000 tonnes per annum. As with the edible oil, quantities used vary according to price changes. Vegetable oils used as technical oils have declined in quantity because of the development of synthetic substitutes, which have a comparative price advantage over the natural products. Whether this trend continues will depend almost entirely on whether substitutes can maintain their advantage. It will also depend, in the case of rapeseed, on the erucic acid level of oil available. As low content seed varieities are developed, the erucic acid content of oil is falling. In its use as an edible oil this is highly desirable, but for technical purposes it is a distinct disadvantage. For most technical purposes it is essential that oil of an erucic content of at least 40% is used. For the manufacture of fatty acids, the desirable acid content is even higher, at around 50%. With commercial varieties of seed now available which yield oil with an erucic acid level as low at 5% to 10%, the use of rapeseed oil as a technical oil will be lost altogether unless the interests of technical processors are safeguarded by ensuring the continuation of production of some high erucic acid content seeds to satisfy the demand.

The most important application of technical rapeseed oil is its conversion to fatty acids which are used for the production of erucic acid and derivatives and also erucamide and derivatives which are used as plasticisers. Other uses of rapeseed oil in order of importance are as factice (rubber extender); as a lubricant for metal surfaces such as bearings; as an ingredient in cold rolling, cutting oils etc; as a soap for lubricant greases; as a metal quenching oil to remove heat from the metal; as a blown oil to be used in special inks, metallic pigments and lubricants; as a core oil for castings and, lastly, as oil for illuminants.

PRICE

Imports of rapeseed oil into the UK are relatively small when compared with the oil crushed from rapeseed by UK processors. As a result a regular series of prices

for imported oil is not readily available. Spot prices for home-trade oil are available and these are listed in Table A10. for the period 1969–1973. Prices for various grades of oil available are shown, from crude oil to the specially processed 'blown' oil which is used for technical purposes. Prices of all grades of oil increased in the period although in 1972 some downturn was noted.

Because of the degree of substitutability between rapeseed and soyabean oil their prices are closely related and up until 1974 UK buyers quoted a discount of around £6/tonne as being necessary for rapeseed oil to be bought instead of soya. Table VIII below shows the historical discount applying between soyabean and rapeseed oils.

Table VIII

Price discount between rapeseed oil and soyabean oil

£/tonne

	Average	January/December			Oct/Sept	Nov
	1966–68	1970	1971	1972	1972/73	1973
Price of Dutch rapeseed oil	85.0	...	121.30	92.72	139.27	199.24
Discount to soyabean oil, Dutch	–5.83	...	–3.70	–3.60	–7.35	–6.73

Note: ... not available

Source: *Oil World Semi-Annual,* December 1973, ISTA, Mielke & Co, Germany

The year 1973 was one of wide variations and unprecedented rises in the price of all vegetable oilseeds and oils. This is reflected in the price quotations received from crushers and refiners during the course of this survey. Prices quoted for crude rapeseed oil were around £200/ton whilst those for refined oil varied between £300 and £400 per ton. Sources reported a virtual doubling of price since 1972, with no sign of a marked decline from 1973 levels in 1974.

In 1974, the normal price relationship between rapeseed and soya bean oils became distorted because of the controversy over the effect of the presence of erucic acid in rapeseed oil. In 1974, the market was particularly affected by the decision taken by the Italian Government to ban completely the sale of oil products containing rapeseed oil, followed by the action taken in France by pressure groups and by uncertainty over the outcome of the Committee of the EEC Commission which considered future regulations on the use of rapeseed oil.

Although cultivation and even use of zero erucic acid varieties of rapeseed had begun, trade sources in the UK reported in October 1974 that the accepted differential between rapeseed oil and soyabean oil had widened to £60 as opposed to £6. By January 1975, the differential was considerably smaller; spot prices for rapeseed oil were £418/tonne and for soyabean oil £408/tonne. The recommendations of the EEC Committee should enable the market to return to a more stable footing and the narrower differentials occurring in January 1975 reflected this. It was reported in February 1975 that the upper limits of erucic acid for inclusion in vegetable oils, expressed as a percentage of total long chain fatty acids had been established at 15% and it would appear that the Italian ban had been lifted.[10]

SOURCES OF COMPETITION TO RAPESEED OIL

As a source of oil, rapeseed competes with a range of other oilseeds which include soyabeans, groundnuts, sesame, sunflowerseed and cottonseed. It may also compete to some extent with oil palm and coconut which are the major sources of lauric oils and which have rather more specialised fields of application. The group within which rapeseed is included is often referred to as the 'soft' oil segment of the market and within this group a further division between the oils can be made.

As noted in the section on uses of rapeseed oil, this oil and soyabean oil are widely used in blended products. The main reason for this is because once refined, the oils are more prone to oxidation and the development of off-flavours than some other oils and therefore require further processing to give them a longer shelf-life. Once refined, groundnut, sunflower and cottonseed oil do not require this further processing and are therefore regarded as high quality oils. As a result of this qualitative difference in the oils a price spectrum has formed wherein rapeseed and soyabean oil fetch lower prices.

However given the interchangeability of the oils it is still impossible to gauge the exact point of substitution through prices alone. Apart from the accepted discount at which rapeseed oil sells relative to soyabean oil, there may be a core of price inelastic demand for a number of oils where the limits of substitution are reached and blenders will use their preferred oil whatever the price. In the case of rapeseed, which is used as a secondary ingredient in most blends, the rate to which it could substitute is also limited by the oil's chemical characteristics, ie its erucic acid content which causes some food manufacturers to be cautious, or, as happened recently, ban the use of it altogether.

Chapter 5

The UK market for rapeseed meal

SOURCES OF SUPPLY

Rapeseed meal marketed in the UK is obtained from either domestically crushed seed or is imported. A full breakdown of imports is shown in Table A11. Between 1961 and 1965 imports averaged 42 000 tonnes per annum.

From 1966 until 1973 imports averaged 85 000 tonnes per annum, (the 1973 figure is taken from Table IX). The largest single supplier of rapeseed meal on a regular basis to the UK was Algeria. Annual quantities from that country ranged from 13 000 to 29 000 tonnes. Also of importance to the UK market are Pakistan and the EEC. Supplies from Pakistan increased in the period under review and in 1972 were 20 000 tonnes. France, West Germany and Italy are the major EEC suppliers of rapeseed meal to the UK. With the exception of 1970 when their combined exports to the UK were only 18 500 tonnes, their exports to the UK after 1968 varied between 38 000 and 45 000 tonnes.

Total UK supplies of meal between 1966 and 1973 are shown in Table IX below.

Table IX

UK supplies of rapeseed meal 1966–1973

'000 tonnes

Year	Meal Production (a)	Meal Imports (b)	Total
1966	20	87	107
1967	22	77	99
1968	44	86	130
1969	43	100	143
1970	27	63	90
1971	41	96	137
1972	65	96	161
1973	67	73	140

Note: (a) 1971, 1972 and 1973: meal production calculated as 57% of the rapeseed crushings shown in Table IV.
(b) 1966–1972: import figures from Table A11. 1973: imports from Table A6.

Source: 1966–1970 *"The Major Importing Markets for Oilcake"* International Trade Centre, UNCTAD/GATT, Geneva 1972.

As Table IX shows, reliance on imports of meal, which were substantial, declined in the period. In 1966 imports accounted for 81% of total supplies and by 1973 this figure had fallen to 52%

At the same time, domestic production of rapeseed meal became relatively more important over the period, although yearly totals varied. In 1973, the domestic production of rapeseed meal reached 67 000 tonnes. A proportion of this total is obtained from domestically grown rapeseed. In 1968, when rapeseed was first grown in significant quantities, the meal equivalent obtained from the crop was 7.4 thousand tonnes; the figure for 1973 was 17.7 thousand tonnes. These tonnages represented 16.8% and 26.4% respectively of UK meal production in 1968 and 1973.

In a similar way to rapeseed and rapeseed oil, the meal is also vulnerable to substitution by other products if its price becomes uncompetitive. Total oilcake consumption in the UK is not expanding as farmers use alternative feedstuffs such as cereals. However, rapeseed meal maintained its share of the oilcake market despite this. Table X shows rapeseed meal supplies expressed as a percentage of total oilcake consumption for the period 1966–1972.

Table X

UK rapeseed meal supplies and oilcake disposals 1966–1973

'000 tonnes

Year	Rapeseed meal supplies	Total oilcake disposals	Rapeseed as % of total
1966	107	1 554	7
1967	99	1 376	7
1968	130	1 330	10
1969	143	1 332	11
1970	90	1 407	6
1971	137	1 245	11
1972	161	1 369	12
1973	140	1 543	9

Source: 1966–1973 Rapeseed supplies – Table IX.
1966–1973 Oilcake disposals – *Annual Abstract of Statistics,* 1974, Central Statistical Office, HMSO, London.

USES

The leading factor contributing to fluctuations in the use of a particular type of meal in compound feeds lies in the method by which compounders mix feed ingredients. Given an animal's nutritional requirements, which are basically for energy and protein with perhaps supplements such as vitamins and mineral traces, the compounder has to devise a means of feeding the animal most effectively while minimising costs. In the early 1960's it was found that the most effective way of doing this was by applying linear programming techniques to arrive at least-cost ration formulations. Given the alternative ingredients, their nutritional properties and their costs it was possible to find the relationship which produced the most liveweight gain at the least cost. Feeds compounded in this way are known as least cost rations and, as a result of the accessibility of computers, which can handle the quantities of constantly changing data required, this has become the accepted method of formulating feedstuffs.

As mentioned above, the ration must provide all the animal's nutritional requirements. It must provide in the form of carbohydrates enough energy to enable the animal to walk about, graze etc, and enough protein to build up and maintain body tissues. This part of the ration is sometimes referred to as the 'maintenance ration,' as it keeps the animal alive. However, livestock are sources of food and in order to maximise their liveweight gains or, in the case of dairy cows, their milk yield, the ration has to include extra energy and protein. Extra protein will produce new flesh in growth or be used as a source of milk proteins, whilst surplus energy will be stored as fat or flesh which may eventually become available for human consumption. This part of the ration is often referred to as the 'production ration.'

The buyer of animal feed ingredients is therefore looking for sources of protein and energy. Rapeseed meal is primarily bought as a source of protein and its price normally reflects the value of the alimentary units of protein it contains in relation to the units provided by other protein sources. At times when prime energy sources such as cereals are expensive, then protein sources may be used as they also contribute to energy. The price-relationship between protein sources is the most important factor underlying the market for protein and in practice rapeseed generally sells at a discount to other meals, notably soya. However, this

discount in fact takes into account the protein content differences of other meals and as Table XI below shows, prices per 1% of meal are very close. It is only when shortages occur that the differentials become sharper, as in the case of fishmeal in 1973.

Table XI

Prices of oilcakes and fish meal per 1% of protein 1971–1974

£ sterling

	1971	1972	1973	1974		
				Jan.	Feb.	March
Rapeseed meal 34%	0.84	1.06	2.13	2.49	2.14	2.04
Soyabean meal 44%	1.00	1.22	2.38	2.27	2.03	2.04
Groundnut meal 50%	0.76	0.84	1.83	2.01	1.64	1.51
Groundnut, expeller 54%	0.88	1.06	2.30	2.43	2.04	1.86
Fishmeal 65%	1.05	1.47	3.40	4.08	3.10	3.41

Source: Figures derived from prices given in *Oil World Semi-Annual,* May 1974, Mielke & Co., Hamburg.

Although the price of protein is the major factor affecting the price of the meal, other considerations may contribute to the preference for one meal over another. Rapeseed meal is a high protein meal with a content sometimes as high as 43%, although the more usual level is around 38%–39%, and generally the quality of the protein is marginally higher than that of soya bean meal. However, the use of rapeseed meal is limited because of toxic elements in the feed which may have an adverse effect on livestock. The chief problems which have been encountered when including rapeseed meal in feedstuffs have related to palatability, nutritional goitre, depressed growth rate and impaired reproductive performance of the animals. These problems are associated with the presence of isothiocyanates and oxazolidinethione, which are formed from precursors known as glucosinolates or thioglucosides, under influence of the enzyme myrosinase.[11]

Processing methods can eliminate myrosinase to some extent. Usually this is done by heating the rolled seed in the cookers, before expelling, as rapidly as possible to 90°C. The meal can then be solvent extracted. However, there is always a risk that myrosinase may be reintroduced possibly from a different batch of seed or meal and therefore it is felt that seed breeding is where the eventual elimination of myrosinase probably lies. A recent paper[12] has predicted that by 1976/77 in both Canada and France, low glucosinolate, low erucic varieties of *Brassica napus* should be obtained. At the present time, however, the use of rapeseed meal in animal feed is limited. Upper limits of inclusion have been recommended at: adult cattle 10%, fattening pigs 5% laying hens 3% and broilers 10%.

COMPOUND FEEDING IN THE UK

The structure of the compound feed industry and its prospects ultimately affect the demand for the raw materials used. The UK has traditionally been a large consumer of compound animal feeds.

A survey of the major import markets for oilcakes was completed by the UNCTAD/GATT International Trade Centre in 1972.[13] This study included the UK market and some parts of the following information are based on the ITC findings.

Between 1966/67 and 1969/70 UK consumption of concentrated feeds rose from 17.3 to 18.6 million tonnes. Consumption in 1971/72 was 19.0 million tonnes. Up until 1972 this rise in consumption benefited mainly barley, which had the advantage of availability for on-farm feeding and was relatively cheap.

Within the increased total consumption of animal feeds, the consumption of oilcakes and meals remained rather stable. Table XII below shows UK disposals of oilcake and meal between 1966 and 1973.

Table XII

United Kingdom disposals of oilcake and meal 1966–1973

'000 tonnes

	1966	1967	1968	1969	1970	1971	1972	1973
Oilcake and meal	1 554	1 376	1 330	1 332	1 407	1 245	1 369	1 543
Of which:								
High and medium protein	1 416	1 271	1 263	1 269	1 348	1 192	1 318	. . .
Low protein	138	105	67	63	59	53	51	. . .

Note: . . . not available

Source: *Annual Abstract of Statistics*, 1974, Central Statistical Office, HMSO, London.

In 1973, disposals of oilcake in the UK were 1.5 million tonnes. This was a distinct improvement on the 1972 figure.

Future progress in the animal feed industry will largely depend on an expansion of livestock numbers. At the present time rapeseed meal is most important as an ingredient in cattle rations. Cattle numbers increased steadily in the UK between 1964 and 1973, with particularly rapid growth rates in 1972 and 1973. By 1973 official figures put cattle numbers at almost 14.5 million. This number is unlikely to be improved on in 1974 because external factors, of which the prime one is the cost of animal feed, have resulted in above average levels of slaughter of young animals which farmers feel they cannot afford to keep until they are fully mature. The long term future for compound feeding stuffs will be dependent partly on use in poultry and swine feeding. At the moment these are areas where rapeseed meal usage is restricted, but with continuing research it is hoped that this problem will be overcome, perhaps as early as 1977.

Other factors which will affect progress of the industry to some extent include the effect of the EEC on British agriculture. World oil meal supplies will also affect the future. After a period of general expansion of oilmeal supplies in the '60s and early '70s owing to an expansion of soyabean production in the US and Brazil, the trade was severely curtailed, partly by the US embargo on soyabean exports in July 1973 and then shortly afterwards by the sudden increases in fuel prices caused by the oil crisis in November 1973 which led to greatly increased freight rates. A further factor which existed throughout this period was the world shortage of fishmeal due to the suspension of the Peruvian anchovy fishing. The effect of these was highly priced meals leading to cutback in demand, as alternative feeds eg grains and cereals became more attractively priced.

PRICE

Price quotations for imported rapeseed meal appeared only sporadically over the period covered by the report and as a result it has been impossible to compile a realistic price series.

Generally speaking the price of rapeseed meal, like other oilseed products, increased over the period. The only prices available for imported meals have been those for Pakistan meal. This is usually sold at a discount to rapeseed meal, from other sources. Prices almost doubled between 1972 and 1974 and by the autumn of 1974 the cif price of 38% protein content Pakistan meal was around £71.50/tonne. For comparison the ex-store price of UK-produced meal was £73/tonne. The rapid increase in meal prices was a reflection of other factors working in the animal feedstuff market which put pressure on all available feed materials, but particularly on those normally regarded as protein sources. At the peak of the

price rises in mid-1973, the price of rapeseed meal touched £90/tonne and that of its major competitor, soyabean meal, £200/tonne. The subsequent easing of price was due for the most part to the fact that the demand for meal is more elastic than that for food oils. During the shortages of 1973 oil stocks were depleted to an extremely low level which led to a backlog in demand for oil, whilst the demand for oilmeal has not been at such a high level. This generated pressure on meal prices, but not enough to boost oilseed crushings to a level which allowed oil stocks to be built up.

A comparison of meal prices at this time of shortage, however, highlights the fact that the limitations which affect the inclusion of rapeseed meal in animal feed compounds mean that buyers will still pay a substantial premium for soyabean meal. This is shown by Table XIII

Table XIII

Comparative price discounts of rapeseed meal to soyabean meal

£/tonne

	Average 1966–68	1970	1971	1972	1973
Price of Rapeseed Meal, 34% fob ex-mill Hamburg	27.09	35.00	29.19	35.97	72.59
Discount to soyabean meal US, 44%	7.35	–7.92	–12.75	–15.59	–50.57

Source: *Oil World Semi-Annual,* various issues, Mielke & Co. Hamburg.

For example Table XIII shows that when the price of rapeseed meal more than doubled between 1970 and 1973 from £35/tonne to £73/tonne the price of soyabean meal (calculated by adding the discount to the rapeseed meal price) rose by a greater proportion. Thus the premium paid for soyabean meal which was almost £8/tonne in 1970 increased by more than sixfold to £51/tonne in 1973.

Once the problems of rapeseed meal are resolved, however, it is thought that the high quality of its protein will make it very competitive.

SOURCES OF COMPETITION TO RAPESEED MEAL

The oilcake industry faces the same problem of interchangeability of products as the vegetable oil industry. The situation is, however, in some respects more complex because of the great variety of products which animal feed compounders can use in their formulae. Generally speaking, rapeseed meal and other oilcakes are regarded as sources of protein for livestock diets. The decision to use rapeseed meal or any of its rival sources of protein therefore depends on the cost of the protein it is providing. In the UK a traditional feature of the market for protein has been the use of cereals to provide a large part of the protein requirements of animals despite their relatively low protein content. Subsidized cereal growing and the existence of Commonwealth Preference helped maintain the use of cereals for this purpose. The crude protein content of the cereals most commonly used for feed compounding is 9–12% whilst that of oilcake is in the range of 20–50%[14]. Subsidies led to an increase in domestic cereal growing so that barley in particular remained cheap enough to increase its share in the compound mix from around 65% in 1960/61 to almost 73% in 1969/70[15]. At the same time the UK tariff structure hindered the growth of the oilcake market by giving an incentive to the importation of cereals and therefore the UK demand for oilcake remained limited.

However, the entry of the UK into the EEC (see below) altered the situation and most spokesmen see a shift from cereals to materials which are sources of energy

alone, such as cassava and citrus pulp. One would therefore expect to see a recovery in oilcake consumption. Two developments perhaps already show the beginning of this trend.

Firstly, the growing of rapeseed in the UK has become an economic proposition for farmers because of the Common Agricultural Policy and secondly it is reported that Unilever is planning to expand the oil mill opened in 1972 from a capacity of 400,000 tonnes to one million tonnes by 1975[16]. This is in expectation of a growing British demand for oil and protein. It would therefore seem in the present world climate of protein shortage and high cereal prices, that the market for any oilcake is assured if competitively priced. The general opinion of UK traders contacted in the course of this survey was that rapeseed, soya and sunflower meal would dominate the UK oilcake market within the next few years. Rapeseed meal is likely to be readily available because it is grown throughout the EEC. There is also a possibility that the dual nature of the oilseeds trade may affect the competitiveness of meals from oilseeds. It is acknowledged that there is a world shortage of protein. However, if in order to increase supplies of protein, more oilseeds are grown and crushed, there then could be a glut of vegetable oil, if demand is already well covered by supplies. Meal prices could then rise because, firstly, processors will endeavour to make up losses on oil by charging more for meal and, secondly, because there could eventually be a cutback in oilseed crushing in an effort to redress the demand and supply relationships which will inevitably lead to pressure on meal sources and hence itself stimulate a rise in prices.

At one time the market for rapeseed meal was less assured than it seems now because of the abundance of fish meal and the probability of introducing cheap protein from petroleum. Fish meal supplies have been reduced because of overfishing of the anchovy grounds off Peru and the likelihood of cheap synthetic protein from oil receded, for the short term at least, with the end of petroleum as a cheap energy source.

Chapter 6

The organisation of the trade in the UK

TRADE CHANNELS

All rapeseed entering the UK is crushed eventually by UK processors. The rapeseed can either be bought directly by crushing mills from the exporting country or, where UK seed is involved, usually from growers' co-operatives. More often, transactions are carried out through middlemen in the UK.

In the nine oilseed mills in the UK there is a total capacity for crushing rapeseed of between 200 000 – 250 000 tonnes. This is concentrated in three mills. Present crushing of rapeseed could be increased only if substituted as a crush for other oilseeds, notably soyabeans. This would not be possible at all mills because of the technical design of the plants involved.

Over the past decade the major trend in the oilseed crushing and related industries has been towards a smaller number of larger companies dominating the market. Government statistics show that by 1970 enterprises employing more than 200 people comprised only 8% of the total number of companies, but accounted for more than 68% of the value of net output. A similar trend can be noted in the major end use industries.

UK produced rapeseed oil and rapeseed meal are distributed from seed crushers to further processors, although, in the case of the larger seed crushers, there is a large degree of vertical integration in respect of the oil refining process and addition of rapeseed meal to feed compounds. Rapeseed oil or meal which is not accounted for by these operations is either distributed to other refiners, normally operating in the same area as the mill, or to compounders, who are also found clustered near port areas. In fact, rapeseed meal entering the UK is channelled predominantly through Liverpool and Hull, where two of the largest seed crushers are based.

At this stage in the trading process imported supplies of rapeseed oil and rapeseed meal join the supplies of UK produced oil and meal. The trade in imported oil would appear to be very small, with only small quantities being dealt with on an irregular basis by middlemen. However, all crude oil in the UK is refined by refiners and then the majority supplied to bottlers of vegetable cooking oils, margarine blenders, biscuit manufacturers etc. Again, many of the manufacturing processes are part of a vertically integrated operation. Small quantities of rapeseed oil are also sold to dealers, mainly for speculative purposes.

In rapeseed meal trading brokers are of particular importance. Generally speaking they take a ½% commission on a transaction from the buyer only. On some occasions, because of the preferences of UK millers, one broker may have to buy through another broker and in that case each broker receives ¼%. The trade is also split into dealers who often specialise in meal from a particular geographical source. For instance, meal from India and Pakistan is generally handled by one trader. He will only buy from particular mills in these countries, as these are the

ones where quality is likely to be better and, furthermore, consistent. Rapeseed meal is also in some cases used directly by firms who both crush and compound animal feeds. The remainder of the meal in the market is directed to the several hundred UK compounding establishments for inclusion in animal feed formulae. However, the bulk of UK trade in rapeseed meal is handled by a small number of very large companies.

QUALITY

The quality demanded in rapeseed and its products varies according to the end-uses envisaged. Most rapeseed and rapeseed products are used for edible purposes; the oil in the food industry and the meal for animal feed. In these cases rapeseed of a low erucic, low glucosinolate content, is desirable. However for oil to be used in technical applications a high erucic acid content is desirable. The minimum standards of quality for rapeseed are strictly controlled by EEC regulations because of the payment system operating under the CAP.

The quality of rapeseed oil is generally governed by its erucic acid content. For the majority of technical uses it is essential that the erucic acid content is around a minimum of 40% and where the production of fatty acids is involved a content of some 50% is considered desirable. Rapeseed oil for edible use is traded on a free fatty acid basis and on a moisture and admixture basis. There is no demand from vegetable oil blenders or animal feed compounders for rapeseed oil or meal with mustard seed residue in it. It is therefore very important that growers of rapeseed, in areas where mustard seed is also likely to be present, try to eliminate this. It is because of the presence of mustard-like substances in meal from Asia that it is sold at a discount on the UK market and, when it is handled, contracts are particularly stringent concerning the quality of consignments.

The quality of rapeseed meal bought is gauged above all by the protein content of the meal. Generally speaking the protein content of the meal varies between 38% and 39%. Most of the rapeseed meal used in the UK is processed by pre-pressing and then solvent extraction which leaves an oil content of about ½% in the final product. Rapeseed meal from seed processed by expellers is also available. This has a higher oil content than solvent extracted meal.

HANDLING

Most oilcake reaching the UK is in bagged form. There is, however, a trend towards bulk handling, although only one of the major rapeseed meal ports of entry, Liverpool, is equipped for bulk unloading. Transhipments also play a large role in the UK trade and some compounders save between £4 and £5 tonne by directly discharging the cargo from ships by pneumatic conveyor into quayside silos. This not only saves on landing charges, but also saves warehousing costs, which may be as high as £5/tonne.

An additional cost to importers is freight charges and these more than doubled after the November 1973 oil crisis. One trade contact was paying £3/ tonne on shipments from Rotterdam to London before November and £7/tonne afterwards.

METHODS OF BUYING

All rapeseed handled in the UK is bought on contracts developed by the main trade associations.

The main contracts used by buyers of rapeseed are the Federation of Oils, Seeds and Fats Associations Ltd. (FOSFA) contracts, numbers 12 and 26. Both contracts are on a cost, freight and insurance basis.

The basic difference between these contracts concerns the ascertaining of the quality of the seed. Seed bought under the terms of contract 12 is subject to a sampling procedure on arrival at the port, after the sorting out of damaged seed and sweepings. Samples of sound seed are then sent to FOSFA who determine by analysis the quantity of non-oleaginous substances and jambaseed contained in the samples. Jambaseed is the oilseed of *Eruca sativa* which is often mixed up with the rapeseed in shipments and causes particular concern in shipments of Asian origin. Once the percentage of admixture has been ascertained from the sample, all non-oleaginous substances are considered valueless. The basis of the contract is pure rapeseed and therefore the buyer is accorded an allowance equal to the percentage of admixture contained in the shipment. If the admixture exceeds 3%, the excess of 3% shall be doubled. In the case of Indian Rapeseed, jambaseed up to 5% is considered as worth half the contract price of the rapeseed and any excess beyond 5% is taken as valueless.

Under contract 26, which deals solely with rapeseed of European origin, the quality of shipments is considered differently. On arrival the rapeseed is assumed to have an oil content of 42% on a 'telle quelle' (such as it is) basis, tested either by petroleum ether or normal hexane; 9% moisture and 2% admixture. Where the oil, moisture and admixture contents vary from the norm set by the contract, the buyer is accorded certain allowances. For oil content, a reciprocal allowance to buyers or sellers of 1¼% of the contract price for each 1% excess or deficiency of oil content is allowed. Where the moisture content exceeds the basis, the buyer is entitled to an allowance of 1% of the contract price for each 1% of moisture in excess of the basis up to 10%. If the moisture content exceeds 10% the buyer reserves the right to reject the shipment. Where the admixture content exceeds up to 3% of the basis, the buyer is entitled to an allowance of 1% of the contract price for each 1% admixture in excess of the basis. An allowance of 2% for each 1% of admixture in excess of 3% up to 4% is then allowed and the buyer has the right to reject a parcel containing over 4% admixture.

Transactions in rapeseed oil, possibly because the volume of rapeseed oil imported into the UK is relatively small, are not made on a specific FOSFA contract. However, the contract generally used is No. 54 for Vegetable Oils in Bulk.

Rapeseed meal is bought on contracts of the Grain and Feed Trade Association (GAFTA). The contracts most commonly used are No. 6: 'Contract for Imported Feeding Stuffs in Bags, cif. Terms'. and Contract No. 100: 'Contract for Shipment of Feeding Stuffs in Bulk, Tale Quale, (such as it is) cif Terms.' In a similar way to the rapeseed contract, both these contracts have clauses offering compensation to the buyers should the shipments have less than the protein content stated or more admixture than is stated. Rapeseed meal has a particular problem because of the possibility that mustard seed may be present.

A spokeman from a UK firm did, however, mention that it is usually the case when contracting to buy or sell rapeseed meal that the meal is stated to be free of mustard seed, but not necessarily free of mustard-like substances. This problem arises mostly in meals of Pakistan or Indian origin and the presence of volatile mustard oil, expressed as allyl isothiocyanate (AIC), can vary widely. The official analysts for GAFTA reported in the 1972/73 period that the presence of such oil in samples tested varied between 0.2% and 1.2%, reflecting the variation in botanical composition of these meals[17]. The different processing techniques used can also affect thiocyanate levels.

Chapter 7

The UK tariff structure

United Kingdom import duties applicable from 1st January 1975 on rapeseed and rapeseed products are listed in Appendix B. The rates of duty existing in the original six members of the EEC are listed alongside.

With the accession of the UK to the EEC in 1973 arrangements were made for the alignment of UK tariffs with those of the EEC. The alignment was designed to be carried out in four stages and completed by July 1st 1977. The first step towards alignment took place on January 1st 1974 and involved the elimination of 40% of the difference between the original UK tariff and the Common Customs Tariff (CCT): where the old UK tariff did not differ from the CCT by more than 15% there was a direct move to the CCT. As a result of the move towards the CCT, duties of 40% of the difference between the former preferential rates for Commonwealth countries (zero for oilseeds, vegetable oils and meals) and the CCT were imposed on imports from the Commonwealth Preference Area with the exception of those countries in the Standstill Commonwealth Preference Area (broadly the 'Annex VI' countries and the dependent territories) which continued to be admitted duty-free. The Annex VI countries are listed in Appendix C. On January 1st 1975, the second stage of the alignment took place, involving the elimination of a further 20% of the differences between the original UK tariff and the CCT. There are two further steps to be taken before the UK tariff and CCT are identical and these will involve eliminating the remaining differences between the two tariffs. The actual dates for these moves, which will each be by 20% of the remaining differences, are January 1st 1976 and July 1st 1977.

Broadly speaking the CCT to which the UK must adapt gives seed-crushing industries access to duty free oilseeds and also allows vegetable oilcakes, such as rapeseed meal, to enter duty-free. Vegetable oils, particularly when refined, attract duty to protect, to some extent, refiners in the UK.

Apart from the tariffs set out in Appendix B, some other countries have arrangements with the EEC to allow their products duty-free access to the Community.

The latest agreement is the Lomé Convention, which was signed by forty-six developing countries in Africa, the Carribbean and the Pacific (the ACP) and the nine members of the EEC. The ACP countries are listed in Appendix D. The Convention covers trade and commercial co-operation and financial and industrial co-operation and came into effect on 1/7/75. It is initially to be of five years' duration, but may become permanent. The Convention, as it affects rapeseed and rapeseed products, guarantees free entry of these to the EEC. There are, however, safeguard clauses which will only be put into effect if there are considerable changes in the volume of imports and consequent disruption of the market and deterioration in the economic situation of one or more regions of the Community.

The effect of the Lomé Convention on trade is that exports from the Annex VI countries (Appendix C) maintain their duty-free entry into the UK, but also gain duty-free access to the other members of the EEC, where previously they had been subject to the CCT. The Lomé Convention also includes those countries which were signatories to the Arusha Agreement and the Yauondé Convention and their trade concessions have either been maintained or in some cases extended.

The tariff may also be further altered owing to the regulations governing oilseeds, vegetable oils and cake under the Common organisation of the Market for Oils and Fats. This organisation, established as part of EEC policy, covers all oilseeds, oilcakes, and vegetable and marine oils, including hydrogenated oils and prepared edible fats but excluding butter, lard, tallow and other animal fats and oils. The aim of the organisation is to eliminate barriers to intra-Community trade, establish a common tariff against imports from non-members and set up a managed common market within the Community. The system as applied to oilseeds is designed to protect oilseed crushers in the EEC while at the same time giving financial support to Community – produced seed. The way in which the tariff is affected by the policy is that a levy may be imposed when Community producers are threatened either by the quantity or by the low price of imports made possible by subsidies introduced in the exporting countries. It is anticipated that a levy on subsidised imports is only likely in the case of the vegetable oils.

Chapter 8

The European Economic Community

PRODUCTION AND TRADE IN RAPESEED AND RAPESEED PRODUCTS: A COMMENT ON THE STATISTICS

The preceding chapters dealt in detail with the UK demand for rapeseed, its oil and meal: the following section is confined to a description of the growth of EEC production and trade up to 1972. In 1973 the UK entry into the Common Market led to forecasts of greatly increased UK production of rapeseed because of the advantages afforded the crop by the working of the Common Agricultural Policy (CAP). As the following section shows, the CAP has already caused a change in the pattern of trade affecting the original six EEC members.

THE MARKET FOR RAPESEED

Production of rapeseed in the EEC increased from 238 000 tonnes in 1961 to 1.0 million in 1972. ([18]) This represents an increase of more than 300% in ten years and has been almost entirely due to the subsidies given to farmers under the Common Organisation for Oils and Fats, which is the body handling production and trade in oilseeds and oilseed by-products under CAP.

France is the major producer of rapeseed in the EEC; between 1964 and 1972 (Table A1) production increased from 247 000 tonnes to 722 000 tonnes. West German output was next in importance in the Community; 249 000 tonnes were produced in 1972.

Production is on a much smaller scale in the other EEC countries; 1972 figures were as follows:—Netherlands 45 000 tonnes; Belgium/Luxembourg 3 000 tonnes and Italy 6 000 tonnes. ([18])

Apart from being a producer of rapeseed, the EEC is also a substantial importer. A varying proportion of imports are, however, accounted for by intra – EEC trade as Table XIV shows.

Individual countries' imports of rapeseed in the period of 1961–1971 are listed in Tables A12–A16. Total EEC imports for the period rose from 128 000 to 857 000 tonnes. The largest market for such imports was Italy (Table A14), not an important rapeseed producer, but a country with a large seed-crushing industry drawing on many sources, of which fellow EEC members are now the most important. In 1971 other EEC countries provided Italy with 66% of her rapeseed requirements. Belgium/Luxembourg was another country relying on EEC members for over half its rapeseed supplies in most years. However, imports of rapeseed were relatively small; only 4,000 tonnes in 1971. Imports of rapeseed into West Germany, France and the Netherlands were largely accounted for by third countries outside the EEC. Table XIV illustrates the development of EEC dependence on EEC supplies between 1961 and 1972.

Table XIV

Intra – EEC imports of rapeseed 1961 –1972

'000 tonnes

Year	Total EEC imports of rapeseed	EEC imports from other EEC members	% of total imported from EEC members
1961	128 190	9 236	7.2
1962	169 412	36 129	21.3
1963	151 786	29 849	19.7
1964	106 273	44 191	41.6
1965	257 955	55 064	21.3
1966	320 461	72 328	22.6
1967	317 592	75 908	23.9
1968	297 863	87 018	29.2
1969	365 735	185 411	50.7
1970	355 192	186 775	52.6
1971	857 300	268 090	31.3
1972	683 166	302 450	44.3

Source: 1961 – 1971 Individual trade statistics of EEC. members
1972 – Eurostat Foreign Trade – Analytical Tables, 1972/1–XII Nimexe, Statistical Office of the European Communities

As Table XIV shows intra – EEC. trade increased in importance over the period. Imports do not, however, show the complete EEC market picture as the EEC is both a producer and exporter of rapeseed. Table XV shows the net EEC market for rapeseed, ie. production plus imports less exports, between 1961 and 1972.

Table XV

The net EEC market for rapeseed, 1961 – 1972

'000 tonnes

Year	France	Germany	Italy	Netherlands	Belgium/Luxembourg	Total EEC
1961	109.3	98.2	73.8	0.3	1.8	283.4
1962	93.7	145.7	115.6	8.7	3.5	367.2
1963	75.1	140.9	97.6	1.3	0.9	315.8
1964	135.2	138.3	69.4	0.8	1.8	345.5
1965	216.1	203.1	141.2	22.6	3.9	586.9
1966	193.8	186.2	220.4	10.3	2.8	613.5
1967	334.3	184.0	226.5	26.0	4.9	775.7
1968	359.3	271.0	154.8	17.0	4.7	806.8
1969	325.8	272.8	172.2	20.3	3.9	795.0
1970	417.2	210.1	226.6	36.4	2.7	889.0
1971	627.9	338.6	381.1	73.7	3.9	1425.2
1972	614.0	176.0	268.0	85.0	7.0	1150.0

Source: Trade statistics of individual countries
1972 – *FAO Production and Trade Yearbooks,* 1972, FAO Rome

As Table XV illustrates, the EEC net market for rapeseed increased substantially over the period to more than 1.4 million tonnes by 1971. Available data for 1972, not shown fully in the statistical appendix to the report, indicate a fall in the net market for rapeseed amongst the six original members of the EEC. Production reached 1.0 million tonnes in 1972, compared with 900 000 tonnes in 1971, with increases of around 11% and 9% respectively registered in the major producing countries, France and Germany, (Table A1). However, increased exports (Table A2), notably from the Netherlands up by 170%, Belgium, up by 130%, and France up by 29% led to a smaller net market in 1972. Exports of rapeseed from EEC countries are shown in Tables A17 – A20 inclusive. Italy has no significant production or exports of rapeseed and therefore figures do not appear in the statistical appendix.

Intra-Community trade dominated the EEC market between 1961 and 1972. Exports to third countries were destined mainly for other European markets and North Africa. Algeria in particular received large quantities of French rapeseed.

Trade statistics of the individual EEC members for the period 1961 –1971 are shown in Tables A21 – A30. These include in some cases quantities of mustard seed oil. Also, in some of the Tables a distinction is made between rapeseed oil suitable for industrial use and that used in edible products. A further breakdown of the oil traded in raw or refined forms may also be given.

An analysis of the Tables shows that EEC exports of rapeseed oil, mostly crude, exceeded imports in the period 1961 – 1971. The countries where rapeseed oil imports were of particular significance were Italy, West Germany and the Netherlands. Italian imports (Table A23) were relatively small until 1967 when they reached 20 000 tonnes. Thereafter, they fluctuated between 22 000 and 29 000 tonnes. In West Germany and the Netherlands imports generally expanded until the late 1960's. In West Germany they peaked at over 27 000 tonnes in 1967 and 1968 (Table A22) and in the Netherlands (Tables A24 and A25) peak imports of 30 000 tonnes were attained in 1968.

The main EEC exporter of rapeseed oil was West Germany. Exports (Table A28) rose from 4 000 to 68 000 tonnes in the period 1961 to 1971. Virtually all these exports were industrial grades of oil. During the period, an increasing proportion of exports was destined for other EEC members, with Italy becoming the largest single buyer. Next in importance as an exporter was France, (Table A27). In 1970 her exports were 39 000 tonnes, of which 31 000 tonnes were edible oil. Again, the majority of exports was directed to other EEC members or associates. The summary data in Table A4, show that French exports of rapeseed oil continued to expand after 1970. In 1971 and 1972 exports of rapeseed oil were 60 000 and 104 000 tonnes respectively. The Netherlands also exports rapeseed oil and shipments increased steadily throughout the period, reaching 23 000 tonnes in 1972 (Tables A4 and A29). Belgium exported no more than 2 500 tonnes in any one year covered by the period (Table A30). Italian exports were negligible. By 1972 intra-EEC trade in rapeseed oil accounted for 92% of Community imports and 56% of exports.[19]

Apart from the trade in rapeseed oils in the EEC substantial quantities are retained for domestic consumption in the member countries. Table XVI below shows EEC production and consumption of rapeseed oil for the period 1968/69 and 1971/72. The years covered are the crop years July/June. The Table points up factors not shown by the trade statistics. The major development in the EEC was the rise in production of rapeseed oil, an increasing proportion of which was supplied by indigenous production although the progress of Italy, with its almost total reliance on imported supplies, proved the exception to this trend. The two most important producers of rapeseed oil in the Community were France and Italy. French production relied heavily on indigenous supplies whilst Italy was dependent on imported seed. These countries together accounted for an average 70% of total production in the period. Taking into account the variation in stocks and the trade in rapeseed oil, disposable supplies available within the Community were, with the exception of 1969/70, less than total production. The two largest internal markets for rapeseed oil in the period were France and Italy. French demand rose from 114 000 tonnes in 1968/69 to 192 000 tonnes in 1971/72 and Italian from 103 000 tonnes to 210 000 tonnes over the same period. Supplies in the other member countries fell on average over the period. In particular, the Dutch and Belgian markets contracted to little more than a third of their 1968/69 levels. In 1971/72 respective figures for the markets were 8,000 and 4,000 tonnes. The West German market also contracted slightly and was 56 000 tonnes in 1971/72. However, as the trend in total supplies available in the EEC indicated, any contraction in one market was more than compensated for by expansion of the French and Italian markets.

Only a small proportion of the total supplies of rapeseed oil available in the EEC are used industrially and the only market where quantities of any size were used in the period covered by Table XVI was France, where 9,000 tonnes were used

Table XVI

Rapeseed oil: production and consumption in the EEC 1968/69 – 1971/72

'000 tonnes

	Production from indigenous rapeseed	Production from imported supplies	Total production	Variation of stocks	External trade Exports	External trade Imports	Disposable supplies	Industrial and non-food usage	Losses	Human total	consumption kg/head
Year and countries											
1968/69											
Federal Republic of Germany	63	49	112	−7	74	24	69	–	–	69	1.1
France	127	17	144	+16	23	9	114	–	–	114	2.3
Italy	2	73	75	+1	0	29	103	1	–	102	1.9
Netherlands	0	5	5	0	11	30	24	1	0	23	1.8
Belgium and Luxembourg	1	0	1	–	2	14	13	–	–	13	1.3
Total EEC	193	144	337	+10	110	106	323	2	0	321	
Intra-EEC trade	60	60			17	71					
Net EEC	253	84	337	+10	39	35	323	2	0	321	1.7
1969/70											
Federal Republic of Germany	45	36	81	−7	37	12	63	–	–	63	1.0
France	112	11	123	−12	29	1	107	5	–	102	2.0
Italy	2	72	74	−4	2	23	99	–	–	99	1.8
Netherlands	3	3	6	−2	8	18	18	1	1	16	1.3
Belgium and Luxembourg	0	1	1	–	0	5	6	–	–	6	0.6
Total EEC	162	123	285	−25	76	59	293	6	1	286	
Intra-EEC trade	87	87			49	49					
Net EEC	249	36	285	−25	27	10	293	6	1	286	1.5
1970/71											
Federal Republic of Germany	47	56	103	+5	63	13	48	–	–	48	0.8
France	147	42	189	+12	52	9	134	8	–	126	2.5
Italy	2	129	131	+9	0	51	173	–	–	173	3.2
Netherlands	6	18	24	+1	18	6	11	1	1	9	0.7
Belgium and Luxembourg	0	1	1	–	1	3	3	–	–	3	0.3
Total EEC	202	246	448	+27	134	82	369	9	1		
Intra-EEC trade	96	96			76	76					
Net EEC	298	150	448	+27	58	6	369	9	1	359	1.9
1971/72											
Federal Republic of Germany	46	56	102	+2	57	13	56	0	0	56	0.9
France	162	97	259	−3	80	10	192	9	0	183	3.6
Italy	2	160	162	−11	0	37	210	0	0	210	3.9
Netherlands	10	13	23	+1	26	12	8	0	0	8	0.6
Belgium and Luxembourg	0	1	1	0	4	7	4	0	0	4	0.4
Total EEC	220	327	547	−11	167	79	470	9	0	461	
Intra-EEC trade	122	122			72	72					
Net EEC	342	205	547	−11	95	7	470	9	0	461	2.4

Source:—*Agricultural Statistics — Balance — Sheets for Fats and Oils,* various issues, Office for Official Publications of the European Communities, Luxembourg.

in 1971/72. France was also, over the period, the country with the largest per capita consumption of rapeseed oil. Consumption between 1968/69 and 1971/72 averaged 2,6 kg/capita. Italy's consumption, however, increased at such a rate that it exceeded French consumption in 1971/72 at 3,9 kg/capita. West German, Belgian and Dutch consumption per capita fell in the period.

In the light of the developments affecting rapeseed oil marketing in 1974 it remains to be seen whether consumption figures will decrease in future.

THE MARKET FOR RAPESEED MEAL

There are two sources of supply of rapeseed meal to the EEC. Firstly, there is rapeseed meal produced by crushing rapeseed within the Community; this may be either indigenous or imported seed. Secondly, the EEC imports rapeseed meal.

There are no published rapeseed meal production figures available for the EEC countries, the production figures mentioned below are based on a calculation of the yield of meal after crushing the net available supplies of oilseed for the period 1961 – 1971. The conversion factor used is 57%[13]. Production of rapeseed meal from such supplies is set out in Table XVII below.

Table XVII

EEC production of rapeseed meal, 1961 – 1972

'000 tonnes

Year	France	West Germany	Italy	Netherlands	Belgium/ Luxembourg	Total EEC
1961	62.3	56.0	42.0	0.2	1.0	161.5
1962	53.4	83.0	65.9	5.0	2.0	209.3
1963	42.8	80.3	55.6	0.7	0.5	179.9
1964	77.1	78.8	39.6	0.4	1.0	196.9
1965	123.2	115.8	80.5	12.9	2.2	334.6
1966	110.5	106.1	125.6	5.9	1.6	349.7
1967	190.6	104.9	129.1	14.8	2.8	442.2
1968	204.8	154.5	88.2	9.7	2.7	459.9
1969	185.7	155.5	98.2	11.6	2.2	453.2
1970	237.8	119.7	126.9	20.7	1.5	506.6
1971	357.9	193.0	217.2	42.0	2.2	812.3
1972	350.0	100.3	152.8	48.4	4.0	655.5

Source: Calculated as 57% of net available rapeseed supplies within the EEC, 1961 – 1972, as shown in Table XV above.

As Table XVII shows, total EEC production greatly expanded between 1961 and 1971. Production of 812 000 tonnes in 1971 was just over five times as large as in 1961. The most important producers of rapeseed meal were France, West Germany and Italy. French production was 358 000 tonnes by 1971 and contributed to 44% of total EEC production. West German output expanded steadily, but less spectacularly than the French in the same period, rising from 56 000 tonnes to 193 000 tonnes. Italian production became increasingly important, although virtually all the seed crushed was imported, largely from other EEC markets. In 1972 a downturn in EEC production of rapeseed meal occurred because of reduced supplies in the Community. However, whilst the larger producers lowered their output, that of the two minor producers of rapeseed meal in the Community, the Netherlands and Belgium, increased.

The trade figures for the individual EEC members are listed in Tables A31 – A39 inclusive. EEC imports of rapeseed meal were dominated by those into Belgium/Luxembourg, the Netherlands and West Germany. Belgium/Luxembourg and the Netherlands were not important producers and exporters of meal, therefore their reliance on imports could be expected. In 1971 Belgium/Luxembourg imported 64 000 tonnes (Table A34) and the Netherlands imported 67 000 tonnes (Table A33). Towards the latter part of the period covered by the Tables, both countries

depended on EEC trade for over half their total imports. West Germany was also a substantial importer of rapeseed meal. Her imports were in the region of 68 000 tonnes by 1971, and increasing reliance was placed on EEC supplies. Additional imports were obtained on a sporadic basis from Poland, Chile and Algeria in the period. Neither France nor Italy received large quantities of rapeseed meal during the period. The most important exporter of rapeseed meal between 1962 and 1971 was Italy (Table A37). Exports ranged between 25 000 and 83 000 tonnes per annum over the period, with other EEC members accounting for more than half the market in any one year. France (Table A35), was also a major exporter and again the greater part of her exports was to EEC countries. West German exports (Table A36) fluctuated between 20 000 and 66 000 tonnes in the period, but again intra-EEC trade was important, particularly after 1966.

From the production and trade figures discussed above, the net EEC market for rapeseed meal can be calculated. The resulting figures are listed in Table XVIII for the period 1963 – 1972.

Table XVIII

The net EEC market for rapeseed meal 1963 – 1972

'000 tonnes

Year	France	West Germany	Italy	Netherlands	Belgium/ Luxembourg	Total EEC
1963	54.6	71.7	23.7	32.2	17.6	199.8
1964	72.6	96.9	14.3	21.6	18.4	223.8
1965	98.0	121.3	28.2	38.9	27.1	313.5
1966	54.0	115.9	57.9	49.7	37.7	315.2
1967	155.3	120.7	46.1	40.2	32.9	395.2
1968	128.8	130.9	59.2	49.5	38.6	407.0
1969	86.0	118.0	65.2	70.6	45.5	385.3
1970	178.3	145.0	58.5	53.0	36.4	471.2
1971	223.6	202.8	142.1	103.8	65.4	737.7
1972	227.0	104.4	64.6	159.0[a]	73.2[a]	628.2

Note [a] Export figures for 1972 obtained from *FAO, Trade Yearbook,* 1973, Rome.

Source: Table XVII and Statistical Appendix.

Table XVIII indicates an expansion of the total EEC market over the period 1963 – 1971. A record total of 738 000 tonnes was registered in 1971 due to large increases in demand from all the EEC countries, notably Italy at 143% above the 1970 level. The Netherlands and Belgium registered increases of 96% and 80% respectively in 1971. France and West Germany, the two largest markets, also increased their demand, but at a more moderate rate. It is thought that the heavy demand increases for rapeseed meal in 1971 resulted from the overall shortage of some alternative feedstuffs. In 1972 the market for rapeseed meal declined, with substantial downturns primarily caused by reduced production in Germany and Italy. The market would have been even smaller if it had not been for the expansion which occurred in the Netherlands and Belgium.

The overall picture for rapeseed meal within the EEC has therefore been one of erratic growth. The real position of rapeseed can, however, only be judged by its strength amongst competing feedstuffs.

COMPETITION WITH RAPESEED MEAL

It would appear from a recent study that, of the feedstuffs available to the six original members of the EEC, more reliance is being placed on compound animal feed[20]. Cereals occupy the premier position in feedstuffs, but they only have a 9 – 11% protein content. In 1971/72, 67.7 million tonnes of cereals were consumed. In the same period consumption of oilcake was some 14.2 million tonnes, of which more than half was accounted for by soya. It can therefore be

seen that rapeseed occupies a fairly small place amongst feedstuffs. In 1971 it accounted for only 5% of total oilcake consumption. However, although rapeseed meal accounts for only a small proportion of total oilcake consumption it would seem likely that the total volume of rapeseed meal consumed will continue to rise, given the pressure of demand on supplies of high protein feedstuffs. Ultimately, any growth in demand for a particular feedstuff rests upon the demand for meat. The EEC study mentioned above has projected that the average rate of increase between 1973/4 and 1977/78 is likely to be: 2.4% for beef; 2.9% for pork, 5.1% for poultry and 1.3% for milk. The report also states that although the demand for compound feeding stuffs increased considerably over the past ten years, it seems unlikely that this rate will continue. Under these conditions, therefore, it was estimated that demand for protein within the Community would expand by 3% per year, between 1973/74 and 1977/78, or at the same rate as animal production. This corresponds to an average annual increase of around 600 000 tonnes of soyabean meal or products supplying equivalent protein. Given this projected increase, how will supplies meet the demand?

In the ten years 1961 – 1971 world production of oilcake increased from 35.4 to 55.6 million tonnes; that of fish meal from 2.6 to 5.6 million tonnes. Most of this increase was accounted for by soyabean meal which reached 31.9 million tonnes in 1971. Unfortunately, production of other oilcakes has remained static because of a downturn in some materials, notably groundnuts. In 1966 other oilcakes accounted for 8 million tonnes of world supplies; in 1973 the situation was unchanged. Therefore in order to avoid a shortfall in world supplies the report concluded that soyabean production would have to increase by 2 million tonnes annually. Such an increase could be made probably only by displacing other major crops, such as cotton and maize, in the US in particular. Such a change would depend naturally on favourable price advantages accruing to soya to make planting attractive to farmers.

Given this situation the European Economic Community, the world's largest market for oilcake, has reviewed its own internal resources. As rapeseed is important amongst these, it would seem likely that its cultivation will continue to be encouraged. Below is a summary of the protein sources available in the EEC together with their prospects.

Oilcake from rapeseed, an average of 550 000 tonnes per year, is the largest single source of high protein feedstuffs within the Community. However, the meal still faces limitations in its use because of the glucosinolate content. The use of the oil for edible purposes is also limited.

Production of sunflowerseed, whose cake at present amounts to about 40 000 tonnes per year, could be developed, but the protein quality of sunflower cake is deficient and has to be improved, usually by addition of lysine. Production of this is almost non-existent in the EEC at the present time. However, sunflowerseed does have an advantage over rapeseed as the oil is more valued as an edible oil because of its low saturated fat content.

Attention is also being directed increasingly to the cultivation of soyabeans in the EEC. This is technically possible in France and is already taking place on a small scale in Italy. Under favourable conditions production of soyabeans could reach about 100 000 tonnes by 1977/78, but this represents only 1.7% of the total Community oilcake requirements and is less than the projected annual increase in demand. Also, any development in soyabean production could only take place at the expense of the acreage given over to cereals, which in turn would lead to another deficit within the Community. Moreover both sunflowerseed and soya have significantly lower yields per hectare than rapeseed. At present sunflowerseed production is limited to France and Italy. Yields of these oilseeds compared to rapeseed are listed below.

Table XIX

Yield per hectare of rapeseed, sunflowerseed and soyabean in the EEC.

	1961 – 65 average	1970	1971	1972
				kgs/ha
Rapeseed	1922	2238	2412	2507
Sunflowerseed (1)	1597	1958	2826	1775
Soyabeans (2)	638	714	714	714

Notes (1) France and Italy only. (2) Italy only.

Source: *FAO Production Yearbook*, 1972, FAO, Rome.

As the table shows the yields of soya are well below those of rapeseed and although those of sunflower are closer, the volume of cake produced from crushing is still less than that from average yields of rapeseed.

Linseed cake is also available within the EEC. At the moment some 22 000 tonnes are produced. However, its use is limited to cattle and, also, the fairly low yield of cake from linseed when crushed is an obstacle to its development.

Other possible protein sources are lucerne and clover, but production has declined over the past ten years although lucerne gives the best yield of protein per hectare within the EEC. Given this, the EEC is likely to encourage production of dried lucerne. Another crop which has been in decline is the field bean and again its development might be encouraged although it cannot be used in unlimited quantities in pig and poultry feeds. However, although development of this crop might allow an import saving of 600 000 tonnes of soyabean meal, it would also lead to an addition cereal requirement of about 600 000 tonnes. Another possibility is urea, but this must be used with cereals (5 kg of maize and 1 kg of urea = 6 kg of soyabean meal). It is therefore unlikely that it could be adopted in the EEC unless cereal prices were considerably lower. Lastly, there is the possibility of using protein from petroleum sources. Already 20 000 tonnes are produced by two factories in the EEC with production for 1978 envisaged at 850 000 tonnes. However, the future for this particular source of protein will depend on its price competitiveness and continuity of the supply of oil. After the recent oil crisis the future of this product is uncertain.

THE WORKING OF THE COMMON AGRICULTURAL POLICY IN RELATION TO RAPESEED

One of the main reasons for the extensive production of rapeseed and the use of its by-products in the EEC is the protection afforded to it by the Common Agricultural Policy (CAP). In the field of oilseeds, the objective of the CAP is to encourage production with a wider aim of increasing self-sufficiency in oils and fats and animal feed.

In order that CAP would be effective a common organisation of the oils and fats market was set up to cover all oilseeds, oilcakes and vegetable and marine oils. The particular system which has evolved set out to protect oilseed crushers in the EEC whilst at the same time giving financial support to seed grown within the EEC. Internal support arrangements apply to the two oilseeds most widely grown in the Community, rapeseed and sunflowerseed. The means by which the policy is carried out are by ensuring that the price system includes the following:

1. the suggested or indicative ("target") price for the whole of the EEC must be sufficiently high to interest producers in growing the crop. This price is fixed annually for the marketing season which runs from July to June in the following year, and is the wholesale price which the Community aims at maintaining at Genoa. Genoa has been chosen because it is the centre of the area in the Community where supplies of rapeseed are shortest.

2. an intervention price is also established, at a figure somewhat lower than the "target" price. This is to assure producers of a market for their rapeseed at a price as close as possible to the "target" price, allowing for market fluctuations. The main intervention price is set for Genoa and then secondary intervention prices are set at other centres. These prices are designed to ensure that seeds move within the Community, from production areas to processors, so that prices in a non-producing area are higher than those in a production area. The geographical locations chosen include the Atlantic ports where many of the oilseed mills are situated and where imported supplies arrive. In the UK, intervention centres include Tilbury and Liverpool. For inland areas where oilseed mills may be situated, intervention prices are also set, and are generally based on the cost of transport from the ports added to the price set at the port.

3. the price system must take into account the world market price; for when the world market price is lower than the "target" price, i.e the wholesale price at Genoa, a subsidy is granted for rapeseed harvested and processed in the Community. This is normally equal to the difference between the two prices. The world market price is determined and the subsidy is fixed at least once a week in Brussels. If quotations for seed are not available the world market price is calculated from the current value of the average quantities of oil and cake obtained from processing 100 kg. of rapeseed, with a deduction for the cost of processing. A further adjustment is also made to take into account the difference between the profit obtained from processing rapeseed and its chief competitor, soyabeans. If it is more profitable to process rapeseed then the world market price may be increased by as much as the difference in profit, and vice-versa. The purpose of this adjustment is to prevent crushers switching their processes from one seed to another because one is more profitable to crush. In practice the system works in such a way that the processor buys seed at a price somewhere between the "target" and intervention prices.

Chapter 9

Conclusions and prospects

PRODUCTION

Rapeseed is primarily a temperate crop and is mainly produced in the temperate developed regions of the world, ie Canada and Western Europe. Both areas have increased their output of rapeseed in the last decade, and developing countries in 1972 accounted for only 29% of production. The maintenance of production in Canada and Europe is not, however, assured for the future. The expansion of rapeseed production occurred because it offered a profitable alternative to farmers. In Canada, it replaced wheat acreages when wheat was in surplus, but present indications are that the Canadians may be reducing their acreage of rapeseed because of changing price ratios. In the EEC the production of rapeseed has flourished because of guaranteed prices to farmers and processors. The incentive to EEC farmers is shown by the dramatic increase in UK acreage and the confident predictions of UK spokesmen for continued expansion of production, during the next few years. It is unlikely that in the EEC as a whole acreages of rapeseed will continue to expand as rapidly as in the past. It is thought that the French acreage is probably at a peak, although there is still expansion potential in West Germany.

The EEC policy towards oilseeds may also reflect recognition of the fact that rapeseed acreage may be near its maximum. The Commission's proposals for the 1974/75 marketing season established for the first time a target price for soyabeans. It is hoped that under this incentive EEC countries will be producing 100 000 tonnes of soyabean by 1977/78. This is, however, still quite a negligible proportion of the Community's total soya consumption. At the same time the target price for sunflowerseed was raised by 6%, compared to a 3% increase in rapeseed prices. It was hoped that this would lead to a more satisfactory price relationship between rapeseed and sunflowerseed and encourage sunflowerseed production to a level of some 205 000 tonnes.

This ambitious policy may become even more important if the disadvantages of rapeseed, in the light of recent events, cause a sharp downturn in demand for its oil. If this happens then the climatic requirements which restrict output of soyabeans and sunflowerseed in the EEC may assume less importance as will the comparatively smaller yields per hectare.

In overall production terms recent projections show that rapeseed is unlikely to show as great an increase in output as some other oilseeds. Table XX below compares various oilseed and oilseed meal outputs and Table XXI expresses the annual changes in these outputs.

The quantities given in the Tables are expressed in 44% (protein content) soyabean meal equivalent in order to make comparisons more realistic.

As Table XX shows production of all oilseeds increased by 4.0% between 1971 and 1973. Most of this increase was contibuted by soyabeans. Forecasts for

Table XX

World production and exports of major oilseeds and meals (44 per cent soyabean meal equivalent basis)

million tonnes

Item	Soyabean	Fish	Peanut	Sunflower	Rapeseed	Other[1]	Total	USA	Foreign
Production.									
1971	27.78	7.44	4.55	3.19	2.75	8.09	53.80	25.24	28.56
1972	29.76	5.81	4.79	3.30	2.81	8.15	54.62	26.19	28.43
1973[2]	32.58	5.13	3.92	3.23	2.75	8.33	55.94	28.50	27.44
1974[3]	40.36	6.33	4.38	3.98	2.69	8.50	66.24	34.52	31.72
1975[4]	40.58	7.23	4.63	4.00	2.80	9.00	68.24	34.09	34.15
Exports:									
1971	14.74	4.21	2.18	0.46	0.86	2.23	24.68	13.45	11.23
1972	15.67	3.93	2.34	0.51	0.83	2.39	25.67	13.59	12.08
1973[2]	18.40	2.13	2.15	0.61	0.89	2.15	26.33	15.51	10.82
1974[3]	21.42	3.37	2.14	0.64	0.75	2.18	30.50	17.39	13.11
1975[4]	22.94	3.93	2.33	0.62	0.80	2.33	32.95	18.27	14.68

Notes: [1] Includes cottonseed, linseed, copra, and palm kernel meal. [2] Preliminary. [3] Partly forecast. [4] Forecast.

Source: *Foreign Agriculture,* **12**, (9), March 4 1974, USDA.

Table XXI

Annual changes in world production and exports of major oilseeds and meals (44 per cent soyabean meal equivalent basis)

million tonnes

Item	Soyabean	Fish	Peanut	Sunflower	Rapeseed	Other[1]	Total	USA	Foreign
Production:									
1960–72 trend	+1.31	+0.36	+0.08	+0.11	+0.11	+0.07	+ 2.04	+1.13	+0.91
1972	+1.98	–1.63	+0.24	+0.11	+0.06	+0.06	+ 0.82	+0.95	–0.13
1973[2]	+2.82	–0.68	–0.87	–0.07	–0.06	+0.28	+ 1.32	+2.31	–0.99
1974[3]	+7.78	+1.20	+0.46	+0.75	–0.06	+0.17	+10.30	+6.02	+4.28
1975[4]	+0.22	+0.90	+0.25	+0.02	+0.11	+0.50	+ 2.00	–0.43	+2.43
Exports:									
1960–72 trend	+0.99	+0.24	+0.02	+0.01	+0.06	+0.02	+ 1.34	+0.90	+0.44
1972	+0.93	–0.28	+0.16	+0.05	–0.03	+0.16	+ 0.99	+0.14	+0.85
1973[2]	+2.74	–1.80	–0.19	+0.10	+0.06	–0.24	+ 0.66	+1.92	–1.26
1974[3]	+3.02	+1.24	–0.01	+0.03	–0.14	+0.03	+ 4.17	+1.88	+2.29
1975[4]	+1.52	+0.56	+0.19	–0.02	+0.05	+0.15	+ 2.45	+0.88	+1.57

Notes: [1] Includes cottonseed, linseed, copra, and palm kernel meal. [2] Preliminary. [3] Partly forecast. [4] Forecast.

Source: *Foreign Agriculture,* **12,** (9) March 4 1974, USDA.

1974 and 1975 indicate further overall increases, but rapeseed does not share to the same extent as this. Rapeseed production could decline by about 6,000 tonnes in 1974 compared with the previous season, and in 1975 the extent of recovery is likely to be small. At 2.80 million tonnes, production in 1975 will still be just short of the peak of 2.81 million tonnes (soyabean meal equivalent) reached in 1972. Exports have followed much the same pattern as production, fluctuating in recent years to such an extent that no real trend is discernible. This pattern seems likely to continue into 1975. It is therefore clear that the future for rapeseed is dependent on changes in other oilseed outputs, of which the most important is soya. Sunflowerseed is also steadily increasing in importance, because of the demand for its oil, and this could have an adverse affect on rapeseed production prospects. It would appear therefore that any increase in production of rapeseed is likely to take place in basically non-exporting countries such as India. In the 1974/75 season an increase in supply of some 400 000 tonnes of rapeseed (including mustard) is expected in India.

Although Tables XX and XXI compare oilseed and oilseed meal outputs it should be remembered that rapeseed is also a source of vegetable oil. The competition from sunflowerseed has been mentioned, but a greater threat to both rapeseed oil and the vegetable oil market as a whole may be the rapid development of palm oil production in Malaysia and West Africa. With vastly increased quantities of palm oil on the world markets it is expected that other vegetable oils will be displaced to some extent and, in relation to rapeseed oil, this could particularly affect the quantities used in margarine, cooking fats and cooking oils.

QUALITY

The quality of rapeseed products is the greatest single factor which has restricted their use in the past. These shortcomings have been recognised and research is gradually improving the position as far as the oil is concerned with the development of low or zero erucic acid strains of rapeseed. Canada has been the world leader in switching production to these new strains. On December 1st 1973 Canadian industry voluntarily agreed that erucic acid would not constitute more than 5% of the total fatty acids in margarines, shortenings, mayonnaise, salad oils and dressings, and cooking oils. Rapeseed oil with a less than 5% erucic acid content is now referred to as canbra oil in Canada so as to distinguish it from the rapeseed oil previously used. Varieties of low erucic acid rapeseed being cultivated in Canada include both *B. napus* and *B. campestris* varieties. The *B. napus* varieties are Midas, Zephyr and Oro. Those of *B. campestris* are Torch and Span[1]. In Europe, research has followed the same lines and it is hoped that, from the 1975/76 season, the new varieties which have been introduced will make rapeseed oil safer for human consumption. However, rapeseed oil also has a valuable outlet in technical uses and one of the problems facing industrial users of the oil is the threat to their supplies if high erucic varieties of rape are no longer grown. It is possible that some zoning system of rapeseed cultivation might be introduced to safeguard this market. Zoning is required to eliminate the possibility of cross pollination between low and high erucic acid varieties of rapeseed.

The rapeseed meal content of animal feeds has always been restricted because of the presence of glucosinolates in the meal. Research has therefore been taking place to eliminate these and the answer has to some extent been found through plant breeding. At the 1974 International Conference on Rapeseed it was stated that the development of low erucic acid and glucosinolate strains of rapeseed would greatly enhance its prospects on the market. It was also stated at the conference that some of these newly developed strains of rapeseed had a 36% protein content with better amino-acid proportions than soyabean meal. Swedish researchers consider that the amino acid composition of rapeseed protein could give the crop possibilities as a source of protein for human nutrition. The strains of rapeseed now being widely introduced are generally referred to as 'double-zero' varieties, which describes their very low erucic acid content and their low glucosinolate content. At the moment the yields from these strains are lower than

those of the ordinary varieties but it is hoped that they will soon be 'bred up' to give matching yields. It is therefore felt that if research programmes progress as well as predicted, by 1980 cultivation of low erucic, low glucosinolate varieties of rapeseed will be well established. It would then appear, that, unless there is a total ban on the presence of erucic acid in rapeseed oil, rapeseed will become most acceptable both as a source of edible oil and of protein. It is therefore of paramount importance that prospective producers of rapeseed ensure that the seed they use meets the likely requirements of major markets.

PROSPECTS

The scope of this report is limited to the UK and EEC markets and therefore the main concern is to indicate the future trends likely in these markets. Over the period covered by the report the UK market experienced a marked increase in demand. In 1973 supplies of rapeseed in the UK reached a record level of 125 000 tonnes. The market for rapeseed oil also expanded, although figures fluctuated from year to year. By 1973 oil supplies amounted to 56 000 tonnes and meal supplies to 140 000 tonnes. With the addition of domestic supplies of rapeseed, which shows every sign of expansion given Common Agricultural Policy incentives, the UK market size is likely to expand for some years to come. At the present time most trade in rapeseed and its products between the UK and other countries is conducted with European and Canadian sources. It is only in the case of rapeseed meal that trade with developing countries has any significance and this trade decreased over the period covered by this report. The share of rapeseed meal imports held by these countries between 1967 and 1972 was 53%. With the entry of the UK to the EEC it is thought that outside suppliers will encounter limited access to the market, especially for the oil products, which face tariff barriers. In the six original member countries of the EEC production of rapeseed has probably reached its peak, although West Germany may still expand its hectarage. At the present time, however, a question mark hangs over the future of rapeseed because of the quality factors which prevent a more extensive use of its products. However, there is confidence that these defects will be overcome in the long-term. The decision to grow rapeseed will then have to be made after consideration of comparative yields, geographical location, climate etc. Given present market conditions most sources felt that soyabeans or sunflower might offer new producers better opportunities. Soyabeans are easy to place on any market because of the demand for high protein meal. Sunflowerseed could also prove a better proposition than rapeseed because of a growing preference for sunflower oil in some margarine formulations and the general acceptability of its oilcake. However, in those countries where rapeseed is perhaps the only viable oilseed crop, where production is already established and expansion is sought, there seems to be no reason to forestall any such programme, especially if close attention is paid to planting the newer varieties of seed, and a close watch is kept on market trends. Demand for oils and fats and protein will continue to rise and, as a source of both, rapeseed products will continue to be in demand.

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Appendix A

Trade statistics

Table

A1 Rapeseed: summary of world production 1964–1973

A2 Rape and mustard seed: summary of exports 1963–1973

A3 Rape and mustard seed: summary of imports 1963–1973

A4 Rape, colza and mustard oils: summary of exports 1963–1973

A5 Rape, colza and mustard oils: summary of imports 1963–1973

A6 Rapeseed cake and meal: summary of exports and imports 1963–1973

A7 Rapeseed: imports into the UK 1961–1972

A8 A comparison of oilseed import prices 1965–1973

A9 Rapeseed oil imports into the UK 1963–1972

A10 Rapeseed Oil, quarterly average prices and annual range, spot-Hull area 1969–1973

A11 Rapeseed cake and meal, imports into the UK 1961–1972

A12 Rape and colza seed, imports into France 1961–1971

A13 Rapeseed: imports into the German Federal Republic 1961–1971

A14 Rape and colza seed: imports into Italy 1961–1971

A15 Rapeseed: imports into the Netherlands 1961–1971

A16 Rapeseed (including colza) imports into Belgium–Luxembourg 1961–1971

A17 Rape and colza seed: exports from France 1961–1971

A18 Rape and colza seed: exports from the German Federal Republic 1961–1971

A19 Rape and colza seed: exports from the Netherlands 1961–1971

A20 Rape and colza seed: exports from Belgium Luxembourg 1961–1971

A21 Rapeseed oil: imports into France 1961–1970

A22 Rapeseed oil (including mustard oil): imports into the German Federal Republic 1961–1971

A23 Colza oil: imports into Italy 1961–1970

A24 Rape and mustard oils (industrial): imports into the Netherlands 1969–1971

A25 Rape and mustard oils (edible): imports into the Netherlands 1961–1971

A26 Rapeseed oil (edible): imports into Belgium/Luxembourg 1961–1971

A27 Rape, colza and mustard oils: exports from France 1961–1970

A28 Rape, colza and mustard oils: exports from the German Federal Republic 1961–1971

A29 Rapeseed oil: exports from the Netherlands 1961–1971

A30 Rapeseed oil: exports from Belgium/Luxembourg 1961–1971

A31 Rapeseed cake and meal (including mustard and colza): imports into France 1961–1970

A32 Rapeseed cake and meal: imports into the German Federal Republic 1961–1971

A33 Rapeseed cake and meal: imports into the Netherlands 1961–1971

A34 Rapeseed cake and meal: imports into Belgium/Luxembourg 1961–1971

A35 Cake and meal of colza, rape, mustard and other crucifers: exports from France 1961–1970

A36 Rapeseed and colza cake and meal: exports from the German Federal Republic

A37 Rape and colza cake and meal: exports from Italy 1962–1971

A38 Rapeseed cake and meal: exports from the Netherlands 1961–1971

A39 Rapeseed cake and meal: exports from Belgium/Luxembourg 1961–1971

Table A1

Rapeseed: Summary of world production

'000 tonnes

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Western Europe										
Austria	11	12	14	15	12	9	8	7	7	5
Denmark	52	50	33	39	30	21	22	46	50	60
France	247	338	317	433	458	512	567	650	722	661
German Federal Republic	109	107	99	125	170	158	185	228	249	222
Netherlands	10	12	13	15	18	12	22	33	45	41
Sweden	181	210	95	245	263	208	192	254	327	339
Switzerland	13	14	11	18	19	14	19	24	24	22
United Kingdom	3	3	6	15	13	12	8	10	14	31
Other:— Belgium and Luxembourg, Finland, Italy, Norway, Turkey	29	28	28	37	39	30	27	21	21	38
Total Western Europe	655	774	610	942	1 022	976	1 050	1 273	1 459	1 419
Eastern Europe										
Czechoslovakia	46	74	78	85	73	48	63	101	107	117
German Democratic Republic	176	214	211	273	265	165	180	196	234	250
Hungary	8	8	9	8	12	22	46	71	52	75
Poland	267	504	448	651	712	204	566	595	430	512
Other:— Bulgaria, Rumania, USSR, Yugoslavia	31	29	11	15	11	18	14	26	25	28
Total Eastern Europe	528	829	757	1 032	1 073	457	869	989	848	982
America										
Canada	300	517	585	560	440	758	1 637	2 155	1 300	1 207
Chile	56	75	77	61	48	64	70	82	78	40
Other:— Mexico, United States	8	8	6	6	6	6	6	7	7	7
Total America	364	600	668	627	494	828	1 713	2 244	1 385	1 254

Table A1 — *continued*

'000 tonnes

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Asia										
People's Republic of China	1 120	1 120	1 120	1 120	1 070	940	992	1 052	1 152	1 152
India	903	1 466	1 276	1 228	1 568	1 347	1 564	1 975	1 433	1 853
Japan	135	126	95	79	68	48	30	23	16	13
Korean Republic	5	5	12	18	21	31	25	37	30	35
Pakistan	302	307	278	307	396	353	255	269	301	287
Taiwan	27	23	8	5	4	3	–	–	–	–
Total Asia	2 492	3 047	2 789	2 757	3 127	2 722	2 866	3 356	2 932	3 340
Africa										
Algeria and Ethiopia	5	5	12	12	12	12	12	12	13	6
Total Africa	5	5	12	12	12	12	12	12	13	6
World Total	4 044	5 255	4 836	5 370	5 728	4 995	6 510	7 874	6 637	7 001

Source: *FAO Production Yearbook* (various issues), FAO Rome

Table A2

Rape and mustard seed: summary of exports

'000 tonnes

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Western Europe											
Austria	0.2	7.4	7.5	8.6	11.2	2.9	7.7	5.2	4.2	2.2	2.9
Belgium and Luxembourg	0.4	1.2	0.6	2.1	1.8	1.9	2.9	3.5	3.3	7.6	4.1
Denmark	51.2	56.5	45.2	41.6	30.1	18.4	20.6	28.0	43.1	37.4	59.0
France	71.1	119.4	126.4	134.1	106.5	118.9	225.0	200.4	211.7	273.0	154.2
German Federal Republic	0.6	3.3	4.8	4.0	10.2	7.8	22.8	36.9	126.8	47.6	35.0
Netherlands	16.2	15.6	9.9	18.0	14.4	25.6	19.8	19.5	12.3	33.2	17.5
Sweden	30.8	48.7	73.5	17.5	21.7	57.9	102.8	53.5	59.9	104.5	161.3
Other: Italy, Norway, Turkey, United Kingdom	1.3	1.4	1.2	0.6	0.7	1.0	5.8	2.6	1.9	1.1	2.3
Total Western Europe	171.8	253.5	269.1	226.5	196.6	234.4	407.4	349.6	463.2	506.6	436.3
Eastern Europe											
German Democratic Republic	–	–	0.7	20.0	16.7	57.1	24.4	–	–	–	–
Poland	5.0	0.6	60.6	88.3	106.5	175.9	85.5	44.6	52.5	4.5	53.7
Other: Bulgaria, Czechoslovakia, Hungary, Roumania, USSR, Yugoslavia	5.4	3.8	4.4	3.0	7.9	0.5	0.4	18.9	26.1	7.8	2.1
Total Eastern Europe	10.4	4.4	65.7	111.3	131.1	233.5	110.3	63.5	78.6	12.3	55.8
Asia											
People's Republic of China	0.2	–	5.8	29.9	23.3	9.2	2.1	3.0	2.0	2.0	4.0
Nepal	3.0	2.0	0.5	6.1	5.6	5.4	4.1	2.0	3.5	4.0	4.0
Other: Burma, India, Pakistan, Taiwan	0.7	0.6	0.7	0.7	1.1	94.7	88.8	89.4	66.4	0.3	0.3
Total Asia	3.9	2.6	7.0	35.7	30.0	109.3	95.1	94.4	71.9	6.3	8.3
Africa											
Ethiopia	2.2	1.4	2.0	0.5	0.5	0.8	0.7	0.6	0.5	0.9	0.8
Total Africa	2.2	1.4	2.0	0.5	0.5	0.8	0.7	0.6	0.5	0.9	0.8
America											
Canada	161.9	106.5	275.0	362.4	399.1	388.3	367.9	705.8	1 228.0	1 163.4	1 265.1
USA	0.1	–	–	–	–	–	–	–	–	–	–
Total America	162.0	106.5	275.0	362.4	399.1	388.3	367.9	705.8	1 228.0	1 163.4	1 265.1
World Total	350.3	368.4	608.8	736.4	757.3	966.3	981.4	1 213.9	1 691.7	1 670.9	1 702.2

Sources: Where available, officially published export statistics of each country.
Some figures from *Trade Yearbook* FAO and *Oilworld Semi-annual* Mielke & Co.

Table A3

Rape and mustard seed: Summary of imports

'000 tonnes

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Western Europe											
Austria	1.1	1.1	1.3	1.4	1.3	1.4	1.8	0.5	0.2	0.3	0.2
Belgium and Luxembourg	1.7	4.6	7.1	4.2	8.4	6.6	7.3	3.7	7.7	9.1	7.6
Finland	0.1	3.7	3.9	7.8	4.7	10.0	6.7	6.7	6.2	8.6	6.5
France	11.2	7.6	4.5	18.1	14.3	26.0	50.7	62.3	199.4	195.3	46.1
German Federal Republic	53.6	42.7	109.8	102.1	82.6	117.4	149.2	75.1	248.0	120.2	276.9
Italy	91.3	61.4	132.5	210.7	221.7	150.0	168.2	216.8	376.3	352.2	261.5
Netherlands	8.1	7.2	20.5	17.7	26.7	26.1	32.1	35.7	53.1	49.3	57.9
Norway	3.7	3.3	2.6	2.8	4.2	0.3	0.2	15.0	20.0	13.0	16.2
United Kingdom	8.1	11.7	32.7	42.9	40.7	80.6	77.8	51.3	65.1	103.6	94.6
Other: Denmark, Greece, Portugal, Sweden, Switzerland	1.8	1.6	2.5	2.7	2.4	5.0	2.8	3.0	3.4	3.6	10.1
Total Western Europe	180.7	144.9	317.4	410.4	407.0	423.4	396.8	470.1	679.4	855.2	777.6
Eastern Europe											
Czechoslovakia	14.0	17.3	36.6	13.9	3.5	8.0	12.0	20.0	6.2	1.0	–
Hungary	–	–	3.5	4.2	0.3	–	2.7	6.6	–	–	–
Poland	0.1	7.4	18.1	4.0	3.4	0.5	0.4	–	–	–	–
Other: German Democratic Republic, USSR, Yugoslavia	–	1.3	1.8	2.5	0.9	1.2	0.7	0.9	4.6	1.3	1.3
Total Eastern Europe	14.1	26.0	60.0	24.6	8.1	9.7	18.3	32.1	65.6	2.3	1.3
Asia											
India and Nepal	3.0	4.5	4.7	3.4	5.9	5.4	4.1	2.9	58.8	25.1	71.2
Japan	94.3	82.4	108.2	217.8	222.4	257.5	284.4	344.9	416.1	613.7	693.1
Pakistan	–	6.6	20.4	18.0	4.3	0.6	0.6	29.2	0.2	0.4	–
Taiwan	–	5.6	–	–	5.7	48.2	19.9	–	–	–	–
Other: Ceylon, Israel, Korean Republic	0.6	0.2	0.8	0.5	0.3	1.0	0.5	0.6	2.1	–	14.0
Total Asia	97.9	99.3	134.1	239.7	238.6	312.7	299.5	377.6	477.2	639.2	778.3

Table A3 — *continued*

'000 tonnes

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Africa											
Algeria	74.0	66.5	59.4	48.9	55.7	58.8	61.2	58.0	39.0	68.0	82.0
Morocco	—	—	—	5.1	16.0	12.5	18.0	16.3	11.5	15.2	15.0
Total Africa	74.0	66.5	59.4	54.0	71.7	71.3	79.2	74.3	50.5	83.2	97.0
America and Oceania											
Mexico	0.1	0.1	0.1	0.1	0.2	0.2	0.2	12.9	0.3	0.3	28.4
USA	13.8	10.5	14.4	24.0	30.7	29.1	29.3	38.2	43.3	47.6	36.0
Other: Brazil, Colombia, Costa Rica, Guyana, Venezuela, Australia	0.5	0.4	0.6	0.5	0.4	0.6	1.0	0.5	0.5	0.6	0.7
Total America and Oceania	14.4	11.0	15.1	24.6	31.3	29.9	30.5	54.1	44.1	48.5	65.1
World Total	381.1	347.7	586.0	753.3	756.7	847.0	824.3	1 008.2	1 316.8	1 628.4	1 719.3

Sources: Where available, officially published import statistics of each country.
Some figures from *Trade Yearbook* FAO and *Oilword semi-annual* Mielke & Co.

Table A4

Rape, colza and mustard oils: Summary of exports

'000 tonnes

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Western Europe											
France	7.0	11.7	32.3	43.7	35.7	29.0	21.8	39.4	60.0	103.9	111.6
German Federal Republic	13.8	14.3	24.5	25.9	30.8	63.2	53.1	33.0	67.8	63.7	106.3
Netherlands	1.3	0.4	1.2	2.8	2.9	6.8	7.9	7.4	16.1	22.8	33.4
Sweden	18.8	8.9	16.4	14.0	22.1	25.3	16.9	20.0	32.3	38.3	38.3
Other: Belgium, Luxembourg, Denmark, Finland, Italy, Switzerland, United Kingdom	0.6	0.1	0.6	0.5	3.2	3.4	1.5	3.4	2.9	5.4	11.5
Total Western Europe	41.5	35.4	75.0	86.9	94.7	127.7	101.2	103.2	179.1	234.1	301.1
Eastern Europe											
Hungary	–	2.0	–	5.0	2.0	1.0	5.9	8.0	8.3	8.6	8.6
Poland	4.3	–	7.8	21.1	55.5	51.8	35.0	37.6	17.1	58.3	47.0
Other: Czechoslovakia, German Democratic Republic	–	–	–	2.0	5.3	2.6	4.2	–	1.0	1.0	1.0
Total Eastern Europe	4.3	2.0	7.8	28.1	62.8	55.4	45.1	45.6	26.4	67.9	56.6
Asia											
China	–	–	3.8	31.8	17.2	19.6	17.0	16.7	17.9	19.0	15.0
Japan	2.6	2.4	3.6	10.8	9.5	6.1	11.6	11.4	9.1	7.5	2.9
Other: Hong Kong, India, Malaysia, Pakistan, Singapore	0.2	0.2	0.5	1.7	1.5	2.1	2.6	1.8	5.7	2.1	1.6
Total Asia	2.8	2.6	7.9	44.3	28.2	27.8	31.2	29.9	31.7	28.6	19.5
Other countries	0.1	0.2	–	–	–	–	–	–	4.0[a]	8.0[a]	3.5[a]
World Total	48.7	40.2	90.7	159.3	185.7	210.9	177.5	178.7	277.2	338.6	380.7

Note (a) Canada only.

Sources: Where available, officially published export statistics of each country.
Some figures from *Trade Yearbook* FAO and *Oilworld semi-annual* Mielke & Co.

Table A5

Rape, colza and mustard oils: Summary of imports

'000 tonnes

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Western Europe											
Austria	3.5	5.4	8.2	12.0	8.5	12.1	11.3	8.8	12.8	21.3	17.6
Belgium and Luxembourg	0.3	0.4	0.9	1.9	2.1	9.8	9.5	2.8	5.1	5.8	5.6
France	4.9	1.1	1.3	2.2	1.4	6.7	3.0	4.2	11.1	6.2	7.6
German Federal Republic	3.4	4.7	7.7	22.3	27.5	27.2	11.4	15.0	12.6	12.9	17.9
Italy	1.0	0.2	0.6	1.4	20.4	23.7	28.6	22.1	45.3	56.7	36.0
Netherlands	6.0	4.0	11.2	14.4	9.5	30.2	23.0	6.1	9.8	10.3	9.4
Spain	0.2	–	0.1	1.2	2.1	2.3	1.3	1.1	1.3	3.1	6.6
Sweden	–	–	–	0.5	3.7	2.4	3.4	1.0	–	–	0.4
Switzerland	1.8	1.0	1.8	3.7	3.7	3.1	2.1	1.0	2.5	3.0	2.0
United Kingdom	3.7	0.2	0.3	–	–	10.9	12.1	14.7	5.9	8.7	13.1
Other: Denmark, Finland, Norway	1.2	0.3	1.2	1.0	0.3	0.9	1.5	0.2	1.0	0.1	–
Total Western Europe	26.0	17.3	33.3	60.6	79.2	129.3	107.2	77.0	107.4	128.1	116.2
Eastern Europe											
Czechoslovakia	1.3	2.2	3.0	–	–	–	–	0.5	–	–	–
German Democratic Republic	–	–	–	–	–	2.1	2.9	1.6	3.0	6.0	6.0
Other: Hungary, Poland, Yugoslavia	0.3	0.4	0.1	0.5	–	0.1	0.1	–	2.9	1.2	2.9
Total Eastern Europe	1.6	2.6	3.1	0.5	–	2.2	3.0	2.1	5.9	7.2	8.9
Asia											
Cyprus	1.5	0.8	2.0	2.7	1.4	1.2	1.5	1.5	2.9	3.4	0.9
Hong Kong	0.6	–	3.7	22.8	20.8	17.7	25.9	21.6	27.8	29.1	28.9
Malaysia and Singapore	0.1	0.1	–	0.2	0.4	7.3	4.4	1.4	1.1	0.8	1.3
Ryu Kyu Island	2.0	2.2	1.0	3.0	2.7	2.9	3.2	4.3	...	...	...
Other: India, Pakistan, Arabian Countries	0.2	0.3	0.5	4.8	3.9	1.4	1.6	0.7	1.0	0.6	13.0
Total Asia	4.4	3.4	7.2	33.5	29.2	30.5	36.6	29.5	32.8	33.9	44.1

Table A 5 — *continued*

'000 tonnes

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Africa											
Algeria	8.0	6.8	13.7	26.9	9.0	12.0	2.0	6.0	41.0	29.0	47.0
Morocco	–	–	–	10.8	–	–	0.2	1.3	11.3	24.3	28.7
Reunion	–	0.1	0.7	1.8	2.7	2.3	3.6	1.7	2.6	3.0	4.3
Other: A.R. Egypt, Ethiopia, Kenya, Madagascar, Mauritius, Rwanda, East and South Africa	0.1	–	–	–	–	3.3	0.4	2.5	0.2	0.2	0.2
Total Africa	8.1	6.9	14.4	39.5	11.7	17.6	6.2	11.5	55.1	56.5	70.2
America											
Chile	–	–	–	0.6	1.7	1.6	2.3	–	13.6	22.3	6.9
Guadeloupe and Martinique	–	0.8	3.9	5.2	3.2	3.2	4.7	1.6	1.3	1.6	4.5
United States	1.4	2.1	2.3	3.9	3.9	4.4	4.5	3.6	5.1	4.7	5.7
Other: Argentina, Brazil, French Guiana, Colombia, Guyana, Trinidad and Tobago	–	–	0.1	0.2	0.2	0.1	0.5	2.0	0.2	0.3	0.3
Total America	1.4	2.9	6.4	9.9	9.0	9.3	12.0	7.2	20.2	28.9	17.4
Oceania											
Australia	0.4	2.0	4.0	5.8	5.0	5.1	6.8	5.6	2.1	0.3	0.3
Fiji and New Zealand	0.2	0.1	0.2	0.3	0.2	0.3	0.1	0.2	0.4	0.3	0.4
Total Oceania	0.6	2.1	4.2	6.1	5.2	5.4	6.9	5.8	2.5	0.6	0.7
World Total	42.1	35.2	68.6	150.1	134.3	194.3	171.9	133.1	223.9	255.2	257.5

. . . not available.

Sources: Where available, officially published import statistics of each country.
Some figures from *Trade yearbook* FAO and *Oilworld semi-annual* Mielke & Co.

Table A6

Rapeseed cake and meal: Summary of exports and imports

'000 tonnes

EXPORTS	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Western Europe											
Denmark	–	–	–	1.7	1.4	5.1	5.6	1.7	0.4	2.2	1.1
France	5.1	9.6	30.8	59.2	40.2	78.0	99.9	65.2	142.6	133.3	71.9
German Federal Republic	36.3	23.2	37.8	39.8	37.8	50.1	66.0	40.5	58.1	63.4	119.3
Italy	31.9	25.3	52.3	67.7	82.8	30.8	33.0	68.8	75.4	88.2	39.9
Other: Austria, Belgium and Luxembourg, Netherlands	3.4	0.7	0.4	3.1	2.1	0.8	0.9	3.5	7.0	4.0	15.1
Total Western Europe	76.7	58.8	121.3	171.5	164.3	164.8	205.4	179.7	283.5	291.1	247.3
Asia											
Pakistan	20.5	16.0	17.0	15.3	11.8	16.1	8.5	29.0	22.1	5.1	42.7
Total Asia	20.5	16.0	17.0	15.3	11.8	16.1	8.5	29.0	22.1	5.1	42.7
Africa											
Algeria	29.5	30.3	28.5	22.3	28.2	26.9	34.1	30.0	20.0	32.0	32.0
Ethiopia	7.6	4.6	4.6	4.3	4.4	4.0	4.9	2.1	1.6	7.2	6.0
Morocco	0.2	0.3	0.7	2.6	8.8	4.8	12.2	5.0	7.0	7.0	7.0
Total Africa	37.3	35.2	33.8	29.2	41.4	35.7	51.2	37.1	28.6	46.2	45.0
America											
Argentina	2.9	3.7	3.2	1.2	–	–	0.5	1.0	1.7	. . .	. . .
Chile	12.7	20.5	16.4	44.9	30.0	8.8	12.2	15.0	10.0	13.0	. . .
Total America	15.6	24.2	19.6	46.1	30.0	8.8	12.7	16.0	12.7	13.0	. . .
World Total	150.1	134.2	191.7	262.1	247.5	225.4	277.8	258.4	356.7	410.3	377.7

Table A6 – *continued*

'000 tonnes

IMPORTS	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
of which into:–											
Western Europe											
Austria	0.7	2.7	5.1	8.1	6.3	5.4	5.8	8.0	10.4	12.0	12.0
Belgium and Luxembourg	17.1	17.4	24.9	36.6	30.7	39.0	43.4	35.1	63.8	69.4	67.7
Denmark	12.8	14.1	10.1	9.6	11.6	10.6	11.1	16.9	30.5	38.8	33.0
France	16.9	5.2	5.6	2.7	4.9	2.0	0.2	5.7	8.3	10.3	22.4
German Federal Republic	27.7	41.3	43.3	49.6	53.6	26.5	28.5	65.8	67.9	67.5	55.8
Italy	–	–	–	–	–	1.8	–	0.4	0.3	–	–
Netherlands	33.8	21.9	26.4	46.4	26.8	40.2	59.7	35.7	67.0	111.0	77.4
Norway	14.7	7.0	21.7	21.0	41.0	47.1	47.2	36.0	31.3	11.7	22.3
Portugal	–	–	–	2.7	–	–	–	0.8	0.7	...	...
Spain	–	–	–	–	–	–	2.5	–	0.4	...	...
Sweden	0.6	0.4	–	12.1	5.2	0.1	–	–	1.8	–	1.5
United Kingdom	29.8	36.3	55.4	87.2	76.7	86.3	100.0	63.4	96.3	96.0	91.1
Total Western Europe	154.1	146.3	192.6	273.3	256.8	257.2	298.4	267.8	378.7	416.7	383.2
Other countries	–	1.0	2.5	2.8	1.8	1.2	0.1	–	13.1	6.5	10.9
World Total	154.1	147.3	195.1	276.1	258.6	258.4	298.5	267.8	391.8	423.2	394.1

Sources: Where available, officially published export and import statistics of each country.
Some figures from *Trade yearbook* FAO and *Oilworld semi-annual* Mielke & Co.

Table A7

Rape seed: Imports into the United Kingdom

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Totals	tonnes	4 698	7 286	8 074	11 656	32 662	42 813	40 672	80 554	77 824	49 885	65 018	103 160
	£'000	229	317	345	554	1 492	2 024	1 770	3 354	3 380	2 996	3 872	5 183
of which from:–													
Denmark	tonnes	523	–	3 018	1 255	6 463	4 149	599	859	1 616	3 433	7 356	3 963
	£'000	23	–	138	55	275	197	25	39	69	202	419	206
France	tonnes	–	1 186	–	3 070	5 820	11 037	1 667	–	2 696	822	1 287	1 141
	£'000	–	46	–	149	284	523	79	–	104	56	54	60
German Federal Republic	tonnes	–	993	1 658	486	–	2 730	1 849	2 283	9 212	976	–	4 678
	£'000	–	34	56	21	–	129	89	137	363	57	–	24
Netherlands	tonnes	1 246	1 237	1 174	2 140	895	1 958	3 837	3 323	4 232	15 787	21 861	27 527
	£'000	68	71	62	104	53	105	192	162	213	983	1 380	1 440
Sweden	tonnes	–	–	563	2 621	–	745	1 984	–	27 771	9 430	19 824	55 578
	£'000	–	–	25	125	–	41	87	–	1 162	569	1 168	2 954
Czechoslovakia	tonnes	–	–	–	–	–	–	557	–	–	–	–	–
	£'000	–	–	–	–	–	–	25	–	–	–	–	–
German Democratic Republic	tonnes	–	–	–	–	660	9 821	5 202	42 485	12 801	–	–	–
	£'000	–	–	–	–	27	457	234	1 783	542	–	–	–
Poland	tonnes	–	–	–	–	11 486	8 677	19 302	31 604	13 918	13 635	5 581	357
	£'000	–	–	–	–	470	410	780	1 233	637	796	318	19
Canada	tonnes	2 929	3 827	1 651	2 083	7 340	3 672	5 666	–	5 578	5 740	8 946	9 911
	£'000	138	163	64	99	383	160	257	–	290	328	526	480
Australia	tonnes	–	–	–	–	–	–	–	–	–	39	162	–
	£'000	–	–	–	–	–	–	–	–	–	4	6	–
Other Countries	tonnes	–	43	10	1	16	24	9	–	–	23	1	5
	£'000	–	3	–	1	–	2	2	–	–	1	1	–

– Nil or negligible

Source: *The trade of the United Kingdom* HM Customs & Excise

Table A8

A comparison of Oilseed Import Prices 1965–1973

	Rapeseed[1]		Soya bean[2]	
1965	44.1	£ per tonne	41.6	£ per tonne
1966	46.5	,,	45.3	,,
1967	44.8	,,	41.0	,,
1968	43.9	,,	46.8	,,
1969	45.8	,,	44.7	,,
1970	57.0	,,	49.7	,,
1971	57.9	,,	53.4	,,
1972	59.2	,,	57.4	,,
1973	102.8	,,	90.9	,,

Notes: (1) Canadian, nearest forward shipment, c.i.f. European ports; 1964–1969; 40%, 1970 & 1971, 42%; 1972 & 1973, 40%.
(2) American No 2, yellow, bulk, nearest forward shipment, c.i.f. UK.

Source: *FAO Monthly Bulletin,* various issues, Rome.

Table A9

Rapeseed oil: Imports into the United Kingdom

		1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Totals	tonnes	3 739	181	279	38	20	10 863	12 084	14 701	5 887	9 147
	£'000	283	23	33	5	4	717	918	1 767	802	863
of which from:–											
Belgium	tonnes	–	–	–	16	–	–	–	159	–	–
	£'000	–	–	–	3	–	–	–	20	–	–
France	tonnes	–	–	–	–	–	3 054	–	–	400	2
	£'000	–	–	–	–	–	198	–	–	53	–
German Federal Republic	tonnes	1 700	102	–	3	–	–	–	–	–	–
	£'000	130	9	–	–	–	–	–	–	–	–
Netherlands	tonnes	–	–	203	1	–	–	1 903	2 235	300	2 350
	£'000	–	–	21	–	–	–	144	273	40	216
Sweden	tonnes	1 959	–	–	–	–	1 505	761	841	775	–
	£'000	136	–	–	–	–	95	59	85	101	–
German Democratic Republic	tonnes	–	–	–	–	–	1 018	1 388	–	–	–
	£'000	–	–	–	–	–	66	107	–	–	–
Poland	tonnes	–	–	–	–	–	4 947	6 873	5 310	788	1 459
	£'000	–	–	–	–	–	331	502	639	91	92
India	tonnes	69	40	17	–	–	–	–	–	–	–
	£'000	15	9	4	–	–	–	–	–	–	–
Canada	tonnes	–	–	–	–	–	–	820	6 095	3 396	5 277
	£'000	–	–	–	–	–	–	75	740	481	542
Other Countries	tonnes	11	39	59	19	20	339	339	61	228	59
	£'000	2	5	8	2	4	27	31	10	36	11

Information not shown before 1963 — Nil or negligible

Source: *The trade of the United Kingdom* HM Customs & Excise

Table A10

Rapeseed oil: Quarterly Average Prices and Annual Range/Spot prices—Hull areas

(£ per tonne)

		I	II	III	IV	Annual range	
						Low	High
Refined deodorised	1969	110	106	107	149	104	169
	1970	169	170	166	171	162	174
	1971	180	168	185	169	160	191
	1972	137	139	135	127	118	142
	1973	153	198	253	269	136	277
Technical refined	1969	108	103	106	148	102	148
	1970	159	171	167	169	157	172
	1971	174	169	173	162	162	174
	1972	133	137	140	138	129	141
	1973	158	199	265	–	141	279
Crude	1969	93	89	91	133	88	133
	1970	144	156	153	153	143	157
	1971	157	149	153	143	143	157
	1972	128	136	118	118	118	146

Note: Information not shown in 1973

Source: *Public Ledger*

Table A11

Rapeseed cake and meal: Imports into the United Kingdom

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Totals	tonnes	40 187	49 777	29 847	36 266	55 373	87 193	76 683	86 348	99 978	63 402	96 264	95 650
	£'000	706	1 174	741	937	1 474	2 120	1 994	2 463	2 745	2 072	2 939	2 853
of which from:–													
France	tonnes	–	–	–	640	5 731	5 576	2 908	16 514	21 718	5 382	24 275	9 784
	£'000	–	–	–	15	148	137	79	471	601	191	726	8 314
German Federal Republic	tonnes	3 301	7 263	4 176	2 777	406	2 193	12 061	13 310	19 791	6 567	9 307	8 394
	£'000	60	192	102	80	12	57	323	459	533	204	267	254
Italy	tonnes	3 585	14 422	–	–	6 584	18 416	10 530	7 865	3 937	6 555	4 755	16 584
	£'000	59	329	–	–	171	446	276	204	118	216	149	463
Netherlands	tonnes	–	427	–	–	–	1 441	1 163	–	–	–	–	245
	£'000	–	11	–	–	–	36	31	–	–	–	–	11
Poland	tonnes	–	–	–	–	–	–	7 164	–	1 988	–	1 092	1 030
	£'000	–	–	–	–	–	–	183	–	54	–	31	26
Rumania	tonnes	3 009	1 022	1 245	610	–	–	–	–	–	–	–	–
	£'000	55	23	33	16	–	–	–	–	–	–	–	–
Pakistan	tonnes	–	209	1 409	3 615	2 919	9 374	9 807	13 845	8 342	28 419	22 146	19 906
	£'000	–	4	32	81	76	236	250	395	227	906	737	639
Taiwan	tonnes	–	–	–	–	–	–	–	798	582	–	–	–
	£'000	–	–	–	–	–	–	–	23	16	–	–	–
Algeria	tonnes	23 342	19 913	15 920	16 828	25 050	22 545	17 674	22 346	29 045	14 139	22 269	12 580
	£'000	405	475	398	440	660	544	464	639	789	479	684	383
Morocco	tonnes	–	–	–	–	–	1 041	6 262	4 903	5 112	–	4 594	1 037
	£'000	–	–	–	–	–	27	161	138	139	–	122	29
Argentina	tonnes	1 430	–	1 439	2 283	1 944	1 018	–	–	155	264	178	–
	£'000	25	–	36	58	52	28	–	–	4	10	6	–
Canada	tonnes	–	–	–	512	3 815	869	–	491	1 783	908	5 833	25 782
	£'000	–	–	–	16	122	23	–	14	52	31	156	721
Chile	tonnes	5 416	5 363	5 658	9 001	8 922	24 689	8 713	2 736	7 377	500	–	–
	£'000	101	114	140	231	233	585	217	74	210	15	–	–
Other Countries	tonnes	104	1 158	–	–	2	31	401	1 540	148	668	1 815	308
	£'000	1	26	–	–	–	1	10	46	2	20	61	11

– Nil or negligible

Source: *The trade of the United Kingdom* HM Customs & Excise

Table A12

Rape and Colza seed: Imports into France

		1961[a]	1962[a]	1963[a]	1964[a]	1965[a]	1966	1967	1968	1969	1970	1971
Total	tonnes	33 840	15 669	11 175	7 610	4 495	8 134	4 915	17 964	37 932	51 238	188 644
	£'000	1 771	740	579	389	244	368	229	677	1 569	2 827	10 549
of which from:–												
Belgium/Luxembourg	tonnes	–	–	–	–	–	–	–	47	53	–	64
	£'000	–	–	–	–	–	–	–	5	7	–	7
Denmark	tonnes	–	–	297	–	–	–	–	187	714	1 706	5 723
	£'000	–	–	15	–	–	–	–	12	46	98	293
German Federal Republic	tonnes	–	45	144	89	92	–	–	76	–	580	–
	£'000	–	7	22	14	14	–	–	12	–	53	–
Netherlands	tonnes	3 357	362	2 365	452	951	283	331	381	362	2 327	597
	£'000	173	20	120	24	53	17	20	25	31	189	45
Sweden	tonnes	1 854	5 159	6 415	3 526	–	–	–	1 951	6 848	2 679	3 590
	£'000	101	253	326	180	–	–	–	74	268	147	207
United Kingdom	tonnes	–	–	–	–	–	–	–	–	–	1 017	–
	£'000	–	–	–	–	–	–	–	–	–	60	–
German Democratic Republic	tonnes	–	–	–	–	–	–	–	9 129	9 174	–	–
	£'000	–	–	–	–	–	–	–	380	363	–	–
Hungary	tonnes	606	–	–	–	–	–	–	–	–	–	–
	£'000	31	–	–	–	–	–	–	–	–	–	–
Poland	tonnes	–	–	–	–	–	–	–	2 074	15 894	1 443	4 042
	£'000	–	–	–	–	–	–	–	87	624	80	215
Burundi	tonnes	–	–	–	–	–	–	–	480	–	–	–
	£'000	–	–	–	–	–	–	–	20	–	–	–
Ethiopia	tonnes	299	307	249	–	109	–	–	–	–	–	–
	£'000	16	16	13	–	6	–	–	–	–	–	–
Canada	tonnes	25223	9 061	123	510	1 155	7 823	4 557	3 619	4 883	41 439	175,105
	£'000	1 322	406	6	25	56	345	206	61	229	2 196	9 782
United States	tonnes	2 433	676	1 526	2 970	2 141	–	–	–	–	–	–
	£'000	122	35	76	142	111	–	–	–	–	–	–
Other Countries	tonnes	68	59	56	63	47	28	27	20	4	47	23
	£'000	6	3	1	4	4	6	3	1	1	4	2

– Nil or negligible (a) Including mustard and navette

Source: *Commerce Exterieur* Direction Générale des Douanes et Droits Indirectes

Table A13

Rapeseed: Imports into the German Federal Republic

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	24 891	31 198	45 339	32 190	100 943	91 204	68 369	108 019	136 379	60 767	235 321
	£'000	1 146	1 161	1 666	1 441	4 630	3 880	3 002	5 206	7 635	3 401	13 824
of which from:–												
Belgium/Luxembourg	tonnes	–	–	–	–	–	–	–	421	32	–	311
	£'000	–	–	–	–	–	–	–	33	2	–	25
Denmark	tonnes	2 663	12 811	15 172	15 910	24 064	22 005	14 275	5 816	1 000	3 961	10 625
	£'000	115	446	588	692	1 024	1 004	550	240	53	208	581
France	tonnes	–	500	–	3 337	10 166	12 553	16 892	6 526	46 350	40	9 659
	£'000	–	18	–	166	492	589	903	546	3 803	7	871
Netherlands	tonnes	1 454	1 023	1 179	6 125	1 255	5 417	3 182	12 747	2 986	3 372	6 042
	£'000	76	54	58	274	78	257	207	1 039	244	250	521
Sweden	tonnes	–	–	7 046	4 892	29 008	3 067	9 460	41 685	56 362	13 768	15 725
	£'000	–	–	279	218	1 289	128	364	1 621	2 306	743	865
Bulgaria	tonnes	–	78	180	330	43	–	–	–	–	–	–
	£'000	–	3	8	15	2	–	–	–	–	–	–
Poland	tonnes	–	4 074	6 415	–	1 047	–	20 214	39 539	18 971	744	3 122
	£'000	–	134	209	–	46	–	777	1 665	741	41	169
Yugoslavia	tonnes	–	–	–	–	–	–	–	–	–	40	–
	£'000	–	–	–	–	–	–	–	–	–	5	–
Canada	tonnes	20 774	12 690	14 826	1 539	33 830	48 158	4 344	1 281	10 649	38 289	175 284
	£'000	955	506	505	70	1 618	1 901	201	60	484	2 106	9 884
USA	tonnes	–	–	521	–	1,496	–	–	–	–	394	14 410
	£'000	–	–	19	–	77	–	–	–	–	21	890
Other Countries	tonnes	–	22	–	57	34	4	2	4	29	159	143
	£'000	–	–	–	6	4	1	–	2	2	20	18

– Nil or negligible

Source: *Der Aussenhandel* Statistisches Bundesamt

Table A14

Rape and Colza seed: Imports into Italy

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	64 852	105 664	89 656	61 380	132 281	210 453	221 509	149 815	168 233	216 800	376 261
	£'000	2 778	4 267	3 633	3 033	5 834	9 141	9 762	6 499	7 496	12 181	22 045
of which from:–												
Austria	tonnes	3 646	–	148	–	8 297	11 220	9 418	5 325	5 985	28	–
	£'000	166	–	7	–	357	494	406	241	214	2	–
Denmark	tonnes	5 129	21	11 924	5 742	7 709	3 568	4 701	505	1 751	413	143
	£'000	223	1	520	262	325	163	210	28	77	19	9
Finland	tonnes	–	700	–	–	–	600	–	–	–	–	–
	£'000	–	28	–	–	–	27	–	–	–	–	–
France	tonnes	–	19 738	20 119	32 956	29 663	50 609	35 279	58 727	118 136	164 573	179 449
	£'000	–	815	790	1 708	1 432	2 357	1 632	2 519	5 356	9 483	10 713
German Federal Republic	tonnes	3 190	–	–	2	1 015	2 054	4 336	20	3 368	8 786	68 660
	£'000	134	–	–	–	43	94	195	2	184	571	4 394
Netherlands	tonnes	20	110	5 284	50	44	56	99	57	2 510	84	209
	£'000	1	6	241	3	3	4	6	4	105	7	15
Norway	tonnes	–	–	–	–	525	–	–	–	–	–	–
	£'000	–	–	–	–	24	–	–	–	–	–	–
Sweden	tonnes	3 011	4 176	15 037	15 769	34 373	29 021	1 698	4 212	4	25	8
	£'000	143	239	690	784	1 563	1 264	69	198	1	3	2
Bulgaria	tonnes	–	3 777	794	–	1 270	966	1 141	337	278	292	229
	£'000	–	130	35	–	54	35	37	11	10	11	9
German Democratic Republic	tonnes	–	–	–	–	–	6 620	8 011	–	–	–	–
	£'000	–	–	–	–	–	302	362	–	–	–	–
Hungary	tonnes	–	172	2 739	–	–	–	322	–	–	7 198	–
	£'000	–	6	114	–	–	–	15	–	–	421	–
Poland	tonnes	–	1 000	5 809	–	16 575	37 724	62 016	70 123	30 332	–	–
	£'000	–	38	243	–	685	1 632	2 775	3 079	1 350	–	–
Rumania	tonnes	–	–	548	–	2 145	1 818	4 300	–	784	709	1 670
	£'000	–	–	15	–	55	46	135	–	31	29	81
USSR	tonnes	–	–	197	2	–	–	670	–	–	100	–
	£'000	–	–	10	–	–	–	32	–	–	5	–
Yugoslavia	tonnes	–	–	–	–	34	28	99	–	–	6 704	8 206
	£'000	–	–	–	–	1	1	4	–	–	365	444
People's Republic of China	tonnes	–	–	485	–	–	–	3 642	–	–	–	–
	£'000	–	–	19	–	–	–	159	–	–	–	–

TABLE A14—*continued*

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Oman	tonnes	–	–	–	–	796	–	–	–	–	–	–
	£'000	–	–	–	–	35	–	–	–	–	–	–
Thailand	tonnes	–	–	–	–	–	–	35	–	–	–	–
	£'000	–	–	–	–	–	–	1	–	–	–	–
Ethiopia	tonnes	324	104	121	138	78	186	280	64	–	–	–
	£'000	15	4	5	6	4	9	12	3	–	–	–
Sudan	tonnes	–	–	–	–	465	129	–	–	–	–	–
	£'000	–	–	–	–	32	10	–	–	–	–	–
Tunisia	tonnes	–	–	–	–	208	–	–	–	–	–	–
	£'000	–	–	–	–	9	–	–	–	–	–	–
Canada	tonnes	49 522	74 393	25 937	5 670	29 083	65 161	82 273	8 445	5 084	27 885	115 687
	£'000	2 092	2 995	931	217	1 212	2 675	3 567	328	168	1 265	6 279
Panama	tonnes	–	–	–	–	–	–	3 147	–	–	–	–
	£'000	–	–	–	–	–	–	143	–	–	–	–
USA	tonnes	–	150	441	1 051	–	–	–	2 000	–	–	2 000
	£'000	–	5	10	53	–	–	–	86	–	–	99
Other Countries	tonnes	10	–	73	–	1	693	747	–	1	3	–
	£'000	4	–	3	–	–	28	35	–	–	–	–

– Nil or negligible

Source: *Comercio con l'estero* Instituto Centrale di Statistica

Table A15

Rapeseed: Imports into the Netherlands

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	2 644	13 284	4 715	3 207	16 200	7 940	18 805	18 986	20 137	24 502	53 079
	£'000	123	502	170	144	647	313	790	767	1 184	1 486	2 965
of which from:–												
Belgium/Luxembourg	tonnes	94	44	35	12	23	2	48	43	28	103	450
	£'000	5	2	2	1	1	1	2	3	2	8	36
Denmark	tonnes	1 080	7 040	1 228	1 090	812	697	2 041	2 041	3 349	3 879	4 715
	£'000	48	250	44	45	34	28	85	88	141	194	260
France	tonnes	–	–	–	–	7 805	–	1 951	–	5 535	238	–
	£'000	–	–	–	–	290	–	109	–	459	21	–
German Federal Republic	tonnes	–	–	–	21	2 360	–	10 631	7 296	4 076	5 619	965
	£'000	–	–	–	1	104	–	411	268	246	477	88
Sweden	tonnes	–	–	–	–	–	–	54	–	100	289	682
	£'000	–	–	–	–	–	–	2	–	4	16	39
German Democratic Republic	tonnes	–	–	–	–	–	–	–	2 266	2 370	–	–
	£'000	–	–	–	–	–	–	–	86	91	–	–
Poland	tonnes	–	480	1 975	–	2 097	–	250	3 228	475	–	–
	£'000	–	17	69	–	80	–	10	132	19	–	–
Canada	tonnes	1 371	4 953	1 770	3 073	6 073	6 703	3 715	4 050	4 166	14 318	46 265
	£'000	64	203	53	83	136	263	165	185	220	749	2 542
USA	tonnes	–	762	47	228	–	507	51	–	–	26	–
	£'000	–	30	2	10	–	19	2	–	–	2	–
Other Countries	tonnes	99	5	5	86	30	31	64	62	38	30	2
	£'000	6	–	–	4	2	2	4	5	2	1	–

– Nil or negligible

Source: *Maandstatistiek van de In-Uit-Voer* Central Bureau voor de Statistiek

Table A16

Rapeseed (including Colza): Imports into Belgium/Luxembourg

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	1 963	3 597	901	1 886	4 036	2 730	3 994	3 079	3 034	1 885	3 995
	£'000	95	145	47	94	182	120	230	157	136	106	255
of which from:–												
Denmark	tonnes	371	343	–	–	–	–	–	–	551	–	737
	£'000	16	15	–	–	–	–	–	–	24	–	43
France	tonnes	–	–	–	–	1 402	495	2 239	–	735	–	1 008
	£'000	–	–	–	–	54	20	143	–	20	–	81
Netherlands	tonnes	1 121	1 067	723	1 147	1 690	859	920	1 145	1 240	1 053	1 196
	£'000	55	51	38	59	86	45	51	71	70	64	71
German Democratic Republic	tonnes	–	–	–	–	–	–	–	1 049	–	–	–
	£'000	–	–	–	–	–	–	–	45	–	–	–
Canada	tonnes	378	1 633	136	574	728	1 191	424	460	507	570	951
	£'000	17	65	5	27	32	47	18	21	22	26	55
Other Countries	tonnes	93	554	42	165	216	185	411	425	1	262	103
	£'000	7	14	4	8	10	8	18	20	–	16	5

– Nil or negligible

Source: *Commerce extérieur* L'Institut National de Statistique

Table A17

Rape and Colza seed: Exports from France

		1961[a]	1962[a]	1963[a]	1964[a]	1965[a]	1966	1967	1968	1969	1970
Totals	tonnes	31 457	81 923	71 113	119 405	126 367	131 336	103 621	116 632	224 167	199 009
	£'000	1 802	3 802	4 014	6 256	6 036	5 898	4 737	5 468	13 005	11 874
Belgium/Luxembourg	tonnes	228	75	–	–	1 689	678	2 239	–	735	–
	£'000	12	4	–	–	61	27	153	–	58	–
Finland	tonnes	–	2 057	–	–	–	–	–	–	–	–
	£'000	–	75	–	–	–	–	–	–	–	–
German Federal Republic	tonnes	1 090	1 981	1 561	4 413	11 081	12 323	15 905	5 774	45 606	–
	£'000	64	96	71	208	487	553	834	475	3 722	–
Italy	tonnes	–	36 656	6 416	44 755	36 661	47 934	30 960	66 023	141 437	160 963
	£'000	–	1 285	224	1 946	1 526	2 078	1 314	2 945	7 446	9 533
Netherlands	tonnes	1 825	1 026	1 534	190	7 734	–	2 218	4 400	5 294	1 988
	£'000	90	45	60	8	280	–	154	186	438	172
Spain	tonnes	–	–	–	–	–	–	–	–	104	–
	£'000	–	–	–	–	–	–	–	–	12	–
Switzerland	tonnes	–	85	–	–	200	305	186	–	–	–
	£'000	–	5	–	–	9	13	10	–	–	–
United Kingdom	tonnes	–	1 175	–	3 070	6 531	11 034	1 704	–	2 804	808
	£'000	–	42	–	139	282	513	76	–	101	48
German Democratic Republic	tonnes	290	127	–	447	923	–	–	–	–	–
	£'000	16	6	–	25	58	–	–	–	–	–
Poland	tonnes	–	–	–	–	2 049	–	–	–	–	–
	£'000	–	–	–	–	88	–	–	–	–	–
Algeria	tonnes	26 795	38 537	61 417	66 478	59 401	54 039	50 358	40 414	28 176	35 202
	£'000	1 548	2 232	3 648	4 026	3 240	2 475	2 194	1 861	1 225	2 116
Morocco	tonnes	–	–	–	–	–	5 013	–	–	–	–
	£'000	–	–	–	–	–	238	–	–	–	–
USA	tonnes	1 078	116	–	–	–	–	–	–	–	–
	£'000	64	7	–	–	–	–	–	–	–	–
Other Countries	tonnes	151	88	185	52	98	10	51	21	11	48
	£'000	8	5	11	4	5	1	2	1	3	5

Notes: – Nil or negligible
(a) Including mustard and other crucifers

Source: *Commerce extérieur* Direction Générale des Douanes et Droits Indirectes

Table A18

Rape and Colza seed: Exports from the German Federal Republic

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	652	486	404	2 864	4 822	3 997	9 346	7 009	21 556	35 631	125 742
	£'000	49	58	54	137	233	188	662	606	1 116	2 609	9 023
of which to:–												
Austria	tonnes	–	69	50	28	23	–	29	84	84	129	83
	£'000	–	11	6	3	2	–	4	14	17	29	18
Belgium/Luxembourg	tonnes	–	–	–	–	–	–	–	14	–	21	32
	£'000	–	–	–	–	–	–	–	3	–	5	8
Denmark	tonnes	–	–	–	–	956	2 212	–	–	–	–	–
	£'000	–	–	–	–	41	93	–	–	–	–	–
Finland	tonnes	–	114	–	–	–	517	–	–	–	–	–
	£'000	–	7	–	–	–	24	–	–	–	–	–
France	tonnes	13	74	143	90	92	23	–	70	–	580	–
	£'000	2	12	22	14	14	3	–	12	–	51	–
Irish Republic	tonnes	–	–	–	–	–	–	–	–	525	–	–
	£'000	–	–	–	–	–	–	–	–	21	–	–
Italy	tonnes	–	–	–	1 026	–	–	–	–	938	23 765	79 864
	£'000	–	–	–	40	–	–	–	–	80	1 757	6 357
Netherlands	tonnes	450	–	–	–	2 356	–	9 054	6 731	3 896	3 822	1 509
	£'000	23	–	–	–	102	–	624	562	319	321	138
Switzerland	tonnes	172	220	173	165	100	157	221	104	134	246	187
	£'000	23	28	23	21	13	22	30	14	16	30	27
United Kingdom	tonnes	–	–	–	1 004	–	1 045	–	–	8 412	1 003	–
	£'000	–	–	–	38	–	44	–	–	367	83	–
Czechoslovakia	tonnes	–	–	–	540	1 254	–	–	–	2 500	6 058	42 548
	£'000	–	–	–	21	59	–	–	–	96	331	2 393
Algeria	tonnes	–	–	–	–	–	–	–	–	5 050	–	1 508
	£'000	–	–	–	–	–	–	–	–	196	–	79
Other Countries	tonnes	17	9	38	11	41	43	42	6	17	28	11
	£'000	1	–	3	–	2	2	4	1	4	2	3

– Nil or negligible

Source: *Der Aussenhandel* Statistisches Bundesamt

Table A19

Rape and colza seed: Exports from the Netherlands

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	12 328	4 496	13,377	12 361	5 578	10 641	7 785	19 989	11 820	10 091	12 304
	£'000	657	254	624	571	314	533	460	1 453	722	748	962
of which to:–												
Austria	tonnes	–	49	33	33	43	442	70	162	168	36	64
	£'000	–	3	2	2	2	22	4	8	8	3	5
Belgium/Luxembourg	tonnes	1 194	945	630	1 037	1 330	1 310	886	1 133	1,229	1 041	1 204
	£'000	58	45	30	52	65	64	47	68	67	61	67
Denmark	tonnes	33	40	28	36	31	37	41	118	52	61	70
	£'000	3	2	1	2	2	2	2	7	3	4	5
Finland	tonnes	874	10	–	–	–	–	–	–	–	–	–
	£'000	47	2	–	–	–	–	–	–	–	–	–
France	tonnes	3 229	224	2 374	215	331	294	393	761	1 234	2 468	1 155
	£'000	166	16	109	12	20	18	23	47	84	195	84
German Federal Republic	tonnes	1 687	1 222	1 221	6 138	1 911	5 693	3 505	14 053	4 542	4 049	7 228
	£'000	96	65	63	265	106	267	222	1 117	328	315	605
Italy	tonnes	50	81	5 075	70	55	44	120	1 503	1 052	99	29
	£'000	3	4	215	4	3	2	7	68	41	7	6
Portugal	tonnes	–	24	21	48	36	40	41	60	59	69	93
	£'000	–	2	1	3	2	2	3	4	4	5	7
Spain	tonnes	–	20	84	61	79	98	156	152	329	398	760
	£'000	–	1	5	3	5	5	9	9	19	26	51
Switzerland	tonnes	227	302	288	185	232	259	265	199	193	126	66
	£'000	17	22	22	13	17	19	18	16	15	10	5
United Kingdom	tonnes	1 180	1 185	1 200	2 127	913	1 940	1 955	1 311	2 321	1 262	1 177
	£'000	66	69	61	100	52	103	104	74	113	86	90
Czechoslovakia	tonnes	–	–	1 900	–	–	–	–	–	–	–	–
	£'000	–	–	88	–	–	–	–	–	–	–	–
Poland	tonnes	–	–	–	1 932	–	–	–	–	–	–	–
	£'000	–	–	–	88	–	–	–	–	–	–	–
Malaysia	tonnes	–	–	–	–	53	51	49	46	59	52	23
	£'000	–	–	–	–	3	3	3	3	4	3	2
South Africa	tonnes	33	70	59	63	51	72	79	102	81	150	121
	£'000	2	4	3	4	3	4	5	6	6	11	10
Argentina	tonnes	29	–	15	37	63	32	22	32	45	40	44
	£'000	2	–	1	3	4	2	1	2	3	3	4
USA	tonnes	390	150	324	259	351	200	66	174	214	19	–
	£'000	23	8	15	13	21	11	4	11	11	1	–
Other Countries	tonnes	3 402	174	125	120	99	129	137	183	242	221	270
	£'000	174[a]	11	8	7	9	9	8	13	16	18	21

Notes: – Nil or negligible

(a) Of which exports to Algeria were 3 275 tonnes valued at £167 000

Source: *Maandstatistiek van de In-Uit-Voer* Centraal Bureau voor de Statistiek

Table A20

Rape and colza seed: Exports from Belgium/Luxembourg

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	118	51	34	61	108	50	83	383	161	132	1 047
	£'000	6.0	3.4	1.7	4.5	7.3	3.5	5.1	31.5	15.7	10.7	85.3
of which to:—												
France	tonnes	–	–	–	–	–	–	7	61	–	–	–
	£'000	–	–	–	–	–	–	0.3	6.3	–	–	–
German Federal Republic	tonnes	–	–	–	–	–	–	–	239	–	15	297
	£'000	–	–	–	–	–	–	–	18.6	–	1.1	25.0
Netherlands	tonnes	93	44	32	8	46	...	...	...	...	103	689
	£'000	4.5	2.5	1.6	0.6	2.8	...	...	...	...	8.1	55.2
Malaysia	tonnes	–	–	–	–	49	–	–	–	–	–	–
	£'000	–	–	–	–	3.5	–	–	–	–	–	–
Other Countries	tonnes	25	7	2	53	13	50	76	83	161	14	61
	£'000	1.5	0.9	0.1	3.9	1.0	3.5[a]	4.8[a]	6.6[a]	15.7[a]	1.5	5.1

Notes: – Nil or negligible
... Information not shown separately
(a) Probably exports to the Netherlands

Source: *Commerce extérieur* L'Institut National de Statistique

Table A21

Rapeseed oil: Imports into France

Information not shown in 1961		1962	1963	1964	1965	1966	1967	1968	1969	1970
Raw – For Industry	tonnes	–	57	115	225	306	20	272	–	–
	£'000	–	5	11	21	30	1	23	–	–
Raw – Other	tonnes	80	152	23	–	772	288	3 433	1 080	1 364
	£'000	7	12	2	–	72	24	237	95	169
Refined – For Industry	tonnes	–	1 096	754	1 067	1 165	581	–	554	19
	£'000	–	117	79	117	122	63	–	54	1
Refined – Other	tonnes	–	3 620	183	–	–	528	3 035	1 333	2 780
	£'000	–	488	26	–	–	46	240	90	328
Totals	tonnes	80	4 925	1 075	1 292	2 243	1 417	6 740	2 967	4 163
	£'000	7	622	118	138	224	134	500	239	498
of which from:–										
Belgium/Luxembourg	tonnes	–	–	–	–	–	185	1 897	522	409
	£'000	–	–	–	–	–	15	152	43	56
German Federal Republic	tonnes	80	978	899	1 061	1 249	717	4 478	2 364	1 487
	£'000	7	101	101	115	130	75	325	180	171
Netherlands	tonnes	–	248	130	229	994	368	251	–	1 396
	£'000	–	22	13	23	94	33	17	–	165
Spain	tonnes	–	–	–	–	–	–	–	19	–
	£'000	–	–	–	–	–	–	–	5	–
German Democratic Republic	tonnes	–	–	–	–	–	–	92	–	–
	£'000	–	–	–	–	–	–	6	–	–
Poland	tonnes	–	–	–	–	–	120	–	–	–
	£'000	–	–	–	–	–	10	–	–	–
Senegal	tonnes	–	3 620	–	–	–	–	–	–	–
	£'000	–	488	–	–	–	–	–	–	–
Tunisia	tonnes	–	–	–	–	–	–	–	25	–
	£'000	–	–	–	–	–	–	–	7	–
Argentina	tonnes	–	22	–	–	–	–	–	–	–
	£'000	–	7	–	–	–	–	–	–	–
USA	tonnes	–	–	–	–	–	–	–	–	849
	£'000	–	–	–	–	–	–	–	–	104
Other Countries	tonnes	–	57	46	2	–	27	22	37	22
	£'000	–	4	4	–	–	1	6	4	2

– Nil or negligible

Source: *Commerce Extérieur* Direction Générale des douanes et Droits Indirectes

Table A22

Rapeseed oil (including mustard oil): Imports into the German Federal Republic

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	4 578	4 885	3 350	4 700	7 666	22 328	27 493	27 235	11 364	14 998	12 607
	£'000	406	392	236	389	654	1 864	2 032	1 872	844	1 757	1 617
of which from:—												
Belgium/Luxembourg	tonnes	1 657	–	–	–	20	–	–	–	–	–	38
	£'000	144	–	–	–	2	–	–	–	–	–	9
Denmark	tonnes	103	–	–	–	–	–	–	–	–	–	–
	£'000	10	–	–	–	–	–	–	–	–	–	–
Finland	tonnes	662	848	–	–	–	–	–	–	–	–	–
	£'000	59	71	–	–	–	–	–	–	–	–	–
France	tonnes	–	59	55	849	4 609	4 019	1 014	2 850	1 732	9 028	4 865
	£'000	–	4	4	80	388	346	80	211	132	1 090	620
Italy	tonnes	–	–	–	–	–	–	–	–	–	648	379
	£'000	–	–	–	–	–	–	–	–	–	77	61
Netherlands	tonnes	20	–	95	31	120	78	252	1 267	320	947	4 375
	£'000	2	–	7	3	11	7	18	107	39	108	561
Sweden	tonnes	1 348	3 898	3 200	3 491	1 941	3 386	5 894	7 053	1 875	1 158	1 967
	£'000	122	312	225	278	175	268	427	478	147	124	246
Switzerland	tonnes	–	–	–	–	–	–	–	42	–	611	408
	£'000	–	–	–	–	–	–	–	3	–	75	54
United Kingdom	tonnes	686	–	–	–	–	–	–	–	–	–	–
	£'000	60	–	–	–	–	–	–	–	–	–	–
Czechoslovakia	tonnes	43	–	–	–	–	989	4 262	1 810	–	–	–
	£'000	4	–	–	–	–	80	299	141	–	–	–
Hungary	tonnes	51	–	–	329	322	–	–	–	–	–	–
	£'000	5	–	–	28	28	–	–	–	–	–	–
Poland	tonnes	–	–	–	–	–	3 342	14 881	14 215	7 437	2 601	474
	£'000	–	–	–	–	–	288	1 099	931	526	283	52
China	tonnes	–	–	–	–	654	10 481	701	–	–	–	–
	£'000	–	–	–	–	50	872	57	–	–	–	–
Dahomey	tonnes	–	–	–	–	–	–	400	–	–	–	–
	£'000	–	–	–	–	–	–	45	–	–	–	–
Other Countries	tonnes	8	80	–	–	–	33	89	40	–	5	101
	£'000	–	5	–	–	–	3	7	1	–	–	14

– Nil or negligible

Source: *Der Aussenhandel* Statistisches Bundesamt

Table A23

Colza oil: Imports into Italy

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Totals	tonnes	824	1 674	1 001	178	590	1 479	19 802	23 683	28 594	22 129
	£'000	76	149	82	18	70	172	1 665	1 977	2 405	2 724
of which from:—											
Belgium/Luxembourg	tonnes	—	—	—	—	—	—	465	635	—	319
	£'000	—	—	—	—	—	—	38	65	—	38
France	tonnes	—	—	—	—	—	40	9 823	6 952	5 085	5 899
	£'000	—	—	—	—	—	4	800	596	412	777
Greece	tonnes	—	—	—	—	—	—	124	—	20	—
	£'000	—	—	—	—	—	—	11	—	2	—
German Federal Republic	tonnes	757	1 003	399	154	377	1 255	8 578	15 961	18 702	15 352
	£'000	74	93	33	14	45	152	741	1 300	1 587	1 849
Netherlands	tonnes	—	42	—	—	121	—	544	43	4 307	515
	£'000	—	5	—	—	14	—	47	4	325	54
Sweden	tonnes	3	590	491	—	60	—	223	—	—	—
	£'000	—	48	39	—	7	—	22	—	—	—
Rumania	tonnes	—	—	—	—	—	—	—	—	95	36
	£'000	—	—	—	—	—	—	—	—	9	5
Argentina	tonnes	—	18	—	18	20	79	18	—	64	—
	£'000	—	2	—	2	1	6	1	—	3	—
Other Countries	tonnes	64	21	111	6	12	105	27	92	321	8
	£'000	2	1	10	2	3	10	16	12	67	1

— Nil or negligible

Source: *Comercio Con L'Estero* Instituto Centrale Di Statistica

Table A24

Rape and mustard seed oils (industrial): Imports into the Netherlands

Not shown separately before year shown		1969	1970	1971
Totals	tonnes	560	248	–
	£'000	41.2	30.1	–
of which from:–				
Belgium/Luxembourg	tonnes	200	–	–
	£'000	18.7	–	–
France	tonnes	–	213	–
	£'000	–	25.7	–
German Federal Republic	tonnes	116	–	–
	£'000	7.3	–	–
German Democratic Republic	tonnes	–	35	–
	£'000	–	4.4	–
Poland	tonnes	209	–	–
	£'000	13.8	–	–
Other Countries	tonnes	35	–	–
	£'000	1.4	–	–

– Nil or negligible

Source: *Maandstatistiek Van De In-Uit-Voer* Centraal Bureau Voor De Statistiek

Table A25

Rape and mustard seed oil (edible): Imports into Netherlands

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	2 995	5 468	5 986	4 051	11 182	13 906	9 160	29 958	22 483	5 848	9 792
	£'000	296	383	417	333	958	1 199	707	2 073	1 609	583	1 200
of which from:–												
Belgium/Luxembourg	tonnes	–	–	–	–	–	–	60	82	116	20	–
	£'000	–	–	–	–	–	–	4	5	20	2	–
Finland	tonnes	1 233	1 897	–	–	–	–	112	–	–	–	–
	£'000	117	155	–	–	–	–	9	–	–	–	–
France	tonnes	–	–	–	834	5 939	8 816	4 216	3 814	2 698	1 068	149
	£'000	–	–	–	74	509	762	340	307	200	126	16
German Federal Republic	tonnes	977	1 780	4 420	2 553	3 826	1 200	2 211	15 541	12 705	4 458	9 242
	£'000	104	116	304	204	336	107	165	1 062	916	421	1 134
Norway	tonnes	–	–	–	–	–	–	–	137	–	–	–
	£'000	–	–	–	–	–	–	–	9	–	–	–
Sweden	tonnes	–	1 771	788	558	512	853	411	1 416	78	–	100
	£'000	–	110	56	46	45	73	30	88	5	–	12
German Democratic Republic	tonnes	586	20	–	–	–	305	102	79	1 056	–	–
	£'000	54	2	–	–	–	26	7	6	71	–	–
Poland	tonnes	–	–	776	102	102	660	1 627	8 787	5 830	302	300
	£'000	–	–	57	8	8	56	116	585	397	34	37
People's Republic of China	tonnes	139	–	–	–	803	2 071	421	–	–	–	–
	£'000	14	–	–	–	60	175	36	–	–	–	–
Argentina	tonnes	–	–	–	–	–	–	–	102	–	–	–
	£'000	–	–	–	–	–	–	–	11	–	–	–
Other Countries	tonnes	60	–	2	4	–	1	–	–	–	–	1
	£'000	7	–	–	1	–	–	–	–	–	–	1

– Nil or negligible

Source: *Maandstatistiek Van De In-Uit-Voer* Centraal Bureau Voor De Statistiek

Table A26

Rapeseed oil (edible): Imports into Belgium Luxembourg

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Refined	tonnes	3	2	3	2	2	5	6	441	20	259	111
	£'000	–	–	1	–	–	1	1	36	2	28	15
Raw	tonnes	205	393	274	400	928	1 892	1 968	9 374	9 423	2 420	4 773
	£'000	21	32	21	34	79	165	151	657	736	277	559
Totals	tonnes	208	395	277	402	930	1 897	1 974	9 815	9 443	2 679	4 884
	£'000	21	32	22	34	79	166	152	693	738	305	574
of which from:–												
Finland	tonnes	–	147	–	–	–	–	–	–	–	–	–
	£'000	–	13	–	–	–	–	–	–	–	–	–
France	tonnes	–	–	–	–	480	1 088	1 351	3 395	...	1 039	2 720
	£'000	–	–	–	–	37	94	97	254	...	120	309
German Federal Republic	tonnes	–	–	–	261	68	500	301	5 612	6 046	1 422	1 275
	£'000	–	–	–	21	7	44	23	377	474	160	159
Netherlands	tonnes	66	190	114	96	380	–	317	432	1 502	–	778
	£'000	6	15	9	8	34	–	31	34	122	–	92
Sweden	tonnes	–	–	57	–	–	252	–	–	–	–	–
	£'000	–	–	4	–	–	22	–	–	–	–	–
Poland	tonnes	–	–	103	–	–	–	–	–	–	–	–
	£'000	–	–	8	–	–	–	–	–	–	–	–
Other Countries	tonnes	142	58	3	45	2	57	5	376	1 895	218	111
	£'000	15	4	1	5	1	6	1	28	142	25	14

Notes: – Nil or negligible ... Information not given separately

Source: *Commerce Extérieur* L'Institut National De Statistique

Table A27

Rape, colza and mustard oil: Exports from France

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
RAW – For Industry	tonnes	3 341	3 166	432	3 127	6 157	3 402	3 074	2 738	4 400	8 220
	£'000	453	402	49	286	538	283	244	195	336	958
RAW – Not For Industry	tonnes	–	–	6 250	8 266	19 352	30 185	21 377	18 148	10 299	13 083
	£'000	–	–	611	773	1 642	2 601	1 595	1 363	1 198	1 854
PURIFIED – For Industry	tonnes	–	–	–	1	232	6	11	71	264	167
	£'000	–	–	–	–	21	1	1	9	23	21
PURIFIED – Not For Industry	tonnes	–	–	324	336	6 562	10 126	11 238	8 026	6 819	17 952
	£'000	–	–	33	43	780	1 142	1 154	938	535	2 140
Totals	tonnes	3 341	3 166	7 006	11 730	32 303	43 719	35 700	28 983	21 782	39 422
	£'000	453	402	693	1 102	2 981	4 027	2 994	2 505	2 092	4 973
of which to:–											
Andorra	tonnes	–	–	–	–	–	–	–	93	242	265
	£'000	–	–	–	–	–	–	–	11	27	38
Austria	tonnes	–	–	–	562	788	237	–	–	101	–
	£'000	–	–	–	50	65	20	–	–	8	–
Belgium/Luxembourg	tonnes	–	–	–	–	480	764	1 101	3 392	652	1 088
	£'000	–	–	–	–	56	64	76	249	57	126
Cyprus	tonnes	–	–	–	–	–	–	50	–	31	43
	£'000	–	–	–	–	–	–	4	–	4	7
German Federal Republic	tonnes	–	75	55	74	3 353	3 656	823	1 949	1 597	8 505
	£'000	–	5	4	6	269	302	63	146	120	1 015
Irish Republic	tonnes	–	–	–	–	–	–	–	–	–	290
	£'000	–	–	–	–	–	–	–	–	–	33
Italy	tonnes	–	–	–	–	–	–	14 903	2 499	5 533	11 842
	£'000	–	–	–	–	–	–	1 114	202	428	1 491
Netherlands	tonnes	–	–	–	3 440	10 852	9 853	6 101	8 166	3 704	5 774
	£'000	–	–	–	291	868	828	443	634	273	681
Spain	tonnes	–	–	–	–	–	60	–	–	317	235
	£'000	–	–	–	–	–	5	–	–	29	29
Switzerland	tonnes	–	–	–	–	68	1 271	1 750	758	98	287
	£'000	–	–	–	–	6	122	170	76	9	39
Archipelago and Comores	tonnes	–	–	–	–	–	–	–	–	60	66
	£'000	–	–	–	–	–	–	–	–	10	11
Algeria	tonnes	3 340	3 087	6 944	6 775	10 193	18 450	3 815	2 500	670	5 805
	£'000	453	396	687	642	954	1 614	333	176	53	657

Table A27 — *continued*

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Canaries, Ceuta (Spanish)	tonnes	–	–	–	–	–	–	–	153	–	–
	£'000	–	–	–	–	–	–	–	18	–	–
Camerouns	tonnes	–	–	–	–	–	–	–	–	63	24
	£'000	–	–	–	–	–	–	–	–	8	4
Congo Brazzaville	tonnes	–	–	–	–	–	–	–	–	84	–
	£'000	–	–	–	–	–	–	–	–	10	–
Congo Kinshasa	tonnes	–	–	–	–	–	–	–	–	–	57
	£'000	–	–	–	–	–	–	–	–	–	10
Gabon	tonnes	–	–	–	–	–	–	–	–	475	341
	£'000	–	–	–	–	–	–	–	–	58	52
Malagasy Republic	tonnes	–	–	–	–	1 743	1 380	–	–	–	75
	£'000	–	–	–	–	194	151	–	–	–	12
Morocco	tonnes	–	–	–	–	–	–	–	–	–	69
	£'000	–	–	–	–	–	–	–	–	–	12
Reunion	tonnes	–	–	–	85	847	1 765	2 671	2 392	2 510	1 706
	£'000	–	–	–	11	100	204	315	314	314	285
Togo	tonnes	–	–	–	–	–	–	–	–	34	103
	£'000	–	–	–	–	–	–	–	–	4	14
Tunisia	tonnes	–	–	–	–	–	502	1 000	3 383	–	–
	£'000	–	–	–	–	–	45	74	238	–	–
Bolivia	tonnes	–	–	–	–	–	–	–	93	–	–
	£'000	–	–	–	–	–	–	–	11	–	–
French Guyana	tonnes	–	–	–	–	168	199	133	–	192	182
	£'000	–	–	–	–	20	23	14	–	23	30
Guadeloupe	tonnes	–	–	–	346	1 655	2 648	1 549	1 702	2 561	852
	£'000	–	–	–	46	203	310	177	203	305	134
Martinique	tonnes	–	–	–	410	2 060	2 827	1 596	1 516	1 901	535
	£'000	–	–	–	52	254	328	187	181	228	77
Caledonia	tonnes	–	–	–	–	–	–	–	–	115	167
	£'000	–	–	–	–	–	–	–	–	18	28
Polynesia	tonnes	–	–	–	–	–	–	–	–	52	152
	£'000	–	–	–	–	–	–	–	–	7	27
Other Countries	tonnes	1	79	7	38	96	107	258	387	821	959
	£'000	–	6	2	4	8	11	24	46	99	161

– Nil or negligible

Source: *Commerce Extérieur* Direction Générale des Douanes et Droits Indirectes

Table A28

Rape, colza and mustard oils: Exports from the German Federal Republic

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
RAW – For Industry	tonnes	...	...	...	...	...	5 172	11 062	37 044	29 912	15 409	43 355
	£'000	...	...	...	...	...	440	820	2 536	2 143	1 664	5 308
RAW OR REFINED – Not For Industry	tonnes	...	...	...	...	...	594	13	940	180	37	205
	£'000	...	...	...	...	...	55	3	101	18	7	30
REFINED – For Industry	tonnes	4 384	9 019	13 758	14 293	24 534	20 088	19 535	25 430	23 021	17 511	24 317
	£'000	442	710	1 082	1 271	2 359	2 049	1 862	2 210	2 069	2 184	3 410
Totals	tonnes	4 384	9 019	13 758	14 293	24 534	25 854	30 610	63 414	53 113	32 957	67 877
	£'000	442	710	1 082	1 271	2 359	2 544	2 685	4 847	4 230	3 855	8 748
of which to:–												
Austria	tonnes	641	241	1 122	2 707	3 410	4 497	1 193	–	–	72	1 647
	£'000	65	22	84	236	319	426	115	–	–	8	204
Belgium/Luxembourg	tonnes	–	–	–	1 610	–	335	301	4 504	4 822	1 421	1 152
	£'000	–	–	–	139	–	30	22	286	370	159	140
Canary Islands	tonnes	–	–	258	114	–	2 732	539	514	229	–	200
	£'000	–	–	30	13	–	277	43	46	22	–	25
Cyprus	tonnes	139	465	547	453	722	1 411	1 043	–	–	–	–
	£'000	15	43	47	42	72	143	98	–	–	–	–
Denmark	tonnes	–	–	411	722	990	655	–	–	–	–	–
	£'000	–	–	27	52	76	54	–	–	–	–	–
France	tonnes	141	114	765	882	1 189	1 788	763	4 943	1 639	1 468	3 473
	£'000	17	12	81	101	132	186	81	342	130	167	435
Greece	tonnes	–	23	148	49	31	292	88	384	305	–	–
	£'000	–	2	13	4	4	29	9	37	28	–	–
Irish Republic	tonnes	–	–	–	31	–	–	–	–	–	199	–
	£'000	–	–	–	3	–	–	–	–	–	15	–
Italy	tonnes	372	1 127	446	188	155	1 912	9 706	16 484	18 899	18 245	30 883
	£'000	37	106	34	17	15	203	788	1 233	1 524	2 216	3 986
Netherlands	tonnes	1 726	4 977	4 574	1 324	7 576	1 763	3 993	18 097	15 950	5 441	12 319
	£'000	173	325	310	106	718	153	286	1 215	1 124	556	1 536
Sweden	tonnes	–	–	–	–	–	–	–	919	–	–	–
	£'000	–	–	–	–	–	–	–	96	–	–	–
Switzerland	tonnes	403	1 409	1 408	946	1 778	2 105	1 534	2 398	1 745	932	1 532
	£'000	44	136	119	82	168	207	141	204	143	118	212
Turkey	tonnes	–	–	–	–	–	–	552	–	27	–	–
	£'000	–	–	–	–	–	–	64	–	3	–	–

TABLE A28—*continued*

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
United Kingdom	tonnes	–	–	1 700	–	–	–	–	–	–	–	–
	£'000	–	–	126	–	–	–	–	–	–	–	–
Czechoslovakia	tonnes	603	–	–	1 664	39	–	–	–	–	500	1 300
	£'000	57	–	–	153	4	–	–	–	–	60	170
Aden	tonnes	–	–	–	–	591	86	75	–	–	–	–
	£'000	–	–	–	–	60	9	6	–	–	–	–
Hong Kong	tonnes	–	–	–	–	–	–	–	150	750	–	–
	£'000	–	–	–	–	–	–	–	12	64	–	–
India	tonnes	–	–	–	–	–	272	200	–	–	–	–
	£'000	–	–	–	–	–	29	21	–	–	–	–
Iraq	tonnes	–	–	–	–	–	–	171	–	–	–	1 014
	£'000	–	–	–	–	–	–	16	–	–	–	163
Japan	tonnes	–	–	–	–	–	–	–	555	699	379	81
	£'000	–	–	–	–	–	–	–	46	61	43	12
Jordan	tonnes	–	–	–	–	–	–	164	–	–	–	–
	£'000	–	–	–	–	–	–	23	–	–	–	–
Pakistan	tonnes	–	–	–	–	–	–	1 323	63	–	–	110
	£'000	–	–	–	–	–	–	120	7	–	–	21
Taiwan (Formosa)	tonnes	–	–	–	–	–	58	–	257	–	–	–
	£'000	–	–	–	–	–	9	–	27	–	–	–
Saudi Arabia	tonnes	–	–	–	–	–	–	120	665	315	283	451
	£'000	–	–	–	–	–	–	10	63	31	39	64
Singapore	tonnes	–	–	–	–	–	–	–	782	474	–	–
	£'000	–	–	–	–	–	–	–	88	49	–	–
Southern Yemen	tonnes	–	–	–	–	–	–	–	1 629	1 690	–	–
	£'000	–	–	–	–	–	–	–	151	157	–	–
Syria	tonnes	–	–	–	–	–	–	113	203	–	–	–
	£'000	–	–	–	–	–	–	17	24	–	–	–
Yemen	tonnes	–	–	–	–	70	31	220	42	660	–	–
	£'000	–	–	–	–	5	4	31	4	80	–	–
Algeria	tonnes	–	35	32	–	2 247	150	700	–	987	2 500	8 691
	£'000	–	3	3	–	190	12	81	–	85	291	1 097
French Somaliland	tonnes	–	–	–	–	–	–	–	164	75	–	–
	£'000	–	–	–	–	–	–	–	15	7	–	–
Malagasy Republic	tonnes	–	–	–	–	–	–	–	–	–	–	1 800
	£'000	–	–	–	–	–	–	–	–	–	–	280

Table A28 — *continued*

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Mali	tonnes	—	—	—	—	—	—	—	—	—	160	—
	£'000	—	—	—	—	—	—	—	—	—	21	—
Mauritius	tonnes	—	—	—	—	780	3 381	4 141	5 141	40	—	—
	£'000	—	—	—	—	80	347	379	450	3	—	—
Sierra Leone	tonnes	—	19	93	—	—	19	—	93	—	—	—
	£'000	—	2	8	—	—	2	—	8	—	—	—
Somalia	tonnes	—	—	—	—	313	443	300	1 835	828	—	—
	£'000	—	—	—	—	35	46	28	182	77	—	—
Sudan	tonnes	—	—	—	—	360	—	—	—	—	—	—
	£'000	—	—	—	—	42	—	—	—	—	—	—
Tanzania	tonnes	308	447	1 522	195	46	45	37	—	—	—	—
	£'000	30	42	132	17	6	6	4	—	—	—	—
Tunisia	tonnes	—	—	—	—	—	—	—	—	—	—	2 120
	£'000	—	—	—	—	—	—	—	—	—	—	257
Uganda	tonnes	—	—	—	—	68	—	—	—	—	—	—
	£'000	—	—	—	—	8	—	—	—	—	—	—
Canada	tonnes	—	—	—	1 000	892	640	503	—	—	—	—
	£'000	—	—	—	83	75	49	44	—	—	—	—
Chile	tonnes	—	—	—	—	—	114	—	29	190	—	401
	£'000	—	—	—	—	—	12	—	3	19	—	52
Dominican Republic	tonnes	—	—	—	—	—	—	—	—	432	—	—
	£'000	—	—	—	—	—	—	—	—	45	—	—
French Antilles	tonnes	—	—	57	—	112	50	—	—	—	—	—
	£'000	—	—	5	—	12	5	—	—	—	—	—
Martinique	tonnes	—	—	—	—	—	—	—	171	50	—	—
	£'000	—	—	—	—	—	—	—	15	4	—	—
Mexico	tonnes	—	—	—	—	—	—	—	175	—	—	—
	£'000	—	—	—	—	—	—	—	21	—	—	—
Trinidad	tonnes	—	—	—	—	—	—	—	—	—	180	270
	£'000	—	—	—	—	—	—	—	—	—	23	35
United States	tonnes	—	—	—	755	770	502	1 531	1 125	—	695	250
	£'000	—	—	—	64	79	49	131	82	—	81	30
Australia	tonnes	—	70	466	1 381	2 121	2 306	765	1 280	1 677	401	—
	£'000	—	7	45	138	226	226	68	110	138	46	—
Other Countries	tonnes	51	92	210	272	274	267	535	812	630	81	183
	£'000	4	10	18	21	33	31	65	80	66	12	29

— Nil or negligible . . . Information not shown separately

Source: *Der Aussenhandel* Statistisches Bundesamt

Table A29

Rapeseed oil: Exports from the Netherlands

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Refined	tonnes	17	1 218	1 187	376	776	2 757	2 597	5 875	4 853	2 061	5 239
	£'000	2	106	111	40	87	314	274	580	537	293	815
Raw	tonnes	200	8	89	2	470	136	271	912	3 002	5 378	14 926
	£'000	23	1	7	–	41	13	20	58	244	628	1 857
Totals	tonnes	217	1 226	1 276	377	1 246	2 893	2 868	6 787	7 855	7 439	20 165
	£'000	25	107	118	40	128	327	294	638	781	921	2 672
of which to:–												
Austria	tonnes	–	–	–	–	–	–	–	–	–	–	418
	£'000	–	–	–	–	–	–	–	–	–	–	55
Belgium/Luxembourg	tonnes	–	7	64	2	349	43	52	641	610	262	–
	£'000	–	1	5	–	30	4	4	49	54	29	–
Cyprus	tonnes	–	–	–	–	17	49	–	34	–	60	736
	£'000	–	–	–	–	3	5	–	3	–	9	91
France	tonnes	–	–	248	130	128	143	200	227	200	1 396	4 218
	£'000	–	–	22	13	14	15	19	16	18	162	511
German Federal Republic	tonnes	–	–	19	–	100	78	200	570	14	973	3 360
	£'000	–	–	1	–	8	7	14	35	1	117	419
Irish Republic	tonnes	–	–	–	–	–	–	–	–	10	–	202
	£'000	–	–	–	–	–	–	–	–	1	–	26
Italy	tonnes	–	55	75	–	107	22	41	23	1 634	723	1 651
	£'000	–	6	6	–	12	2	3	2	115	79	224
Spain	tonnes	–	27	–	–	–	–	–	–	18	–	211
	£'000	–	3	–	–	–	–	–	–	2	–	28
Switzerland	tonnes	–	–	–	–	–	15	–	20	150	–	200
	£'000	–	–	–	–	–	1	–	2	14	–	22
United Kingdom	tonnes	–	–	–	–	–	–	–	46	36	1 190	–
	£'000	–	–	–	–	–	–	–	5	4	144	–
Aden	tonnes	–	–	–	–	–	–	274	–	–	–	–
	£'000	–	–	–	–	–	–	28	–	–	–	–
Hong Kong	tonnes	–	154	–	–	–	–	30	965	1 044	–	–
	£'000	–	11	–	–	–	–	3	75	91	–	–
Indonesia	tonnes	–	–	–	–	–	172	–	–	–	–	–
	£'000	–	–	–	–	–	20	–	–	–	–	–
Lebanon	tonnes	–	–	–	–	–	–	19	96	22	–	102
	£'000	–	–	–	–	–	–	3	11	3	–	17
Mauritius	tonnes	–	–	–	–	–	829	25	163	–	–	300
	£'000	–	–	–	–	–	88	3	14	–	–	34
Muscat	tonnes	–	–	–	–	–	–	–	–	–	35	210
	£'000	–	–	–	–	–	–	–	–	–	6	41
Oman	tonnes	–	–	–	–	15	44	94	166	61	–	–
	£'000	–	–	–	–	2	6	12	21	8	–	–

Table A29 — *continued*

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Saudi Arabia	tonnes	–	–	–	–	10	63	659	420	165	130	870
	£'000	–	–	–	–	1	8	68	40	17	18	135
Algeria	tonnes	–	–	–	–	–	–	–	–	101	600	3 359
	£'000	–	–	–	–	–	–	–	–	11	66	416
French Somaliland	tonnes	–	53	–	–	96	429	47	341	56	–	–
	£'000	–	5	–	–	12	50	5	37	6	–	–
Gibraltar	tonnes	–	–	–	–	–	123	91	176	–	–	–
	£'000	–	–	–	–	–	14	9	18	–	–	–
Ivory Coast	tonnes	–	–	–	–	–	–	–	–	–	470	1 125
	£'000	–	–	–	–	–	–	–	–	–	60	156
Liberia	tonnes	–	–	–	14	14	50	47	62	180	18	95
	£'000	–	–	–	1	2	8	7	10	32	3	21
Malagasy Republic	tonnes	–	–	–	–	–	–	–	–	–	500	250
	£'000	–	–	–	–	–	–	–	–	–	67	40
Tanzania	tonnes	801	466	–	–	–	–	–	–	–	–	–
	£'000	67	40	–	–	–	–	–	–	–	–	–
Sierra Leone	tonnes	–	19	–	–	18	22	46	35	51	–	–
	£'000	–	2	–	–	2	2	4	3	5	–	–
Spanish N Africa	tonnes	–	–	32	–	25	264	–	–	25	–	60
	£'000	–	–	3	–	3	20	–	–	3	–	9
Brazil	tonnes	–	–	–	–	–	–	–	–	450	–	–
	£'000	–	–	–	–	–	–	–	–	46	–	–
Chile	tonnes	–	–	–	–	–	268	431	945	191	271	407
	£'000	–	–	–	–	–	32	47	95	21	39	63
Guyana	tonnes	–	–	–	–	203	–	–	–	–	–	–
	£'000	–	–	–	–	21	–	–	–	–	–	–
Jamaica, Trinidad etc	tonnes	–	13	19	–	14	47	91	67	55	–	60
	£'000	–	1	2	–	2	6	10	6	6	–	10
USA	tonnes	200	–	–	–	–	–	–	200	–	–	351
	£'000	23	–	–	–	–	–	–	15	–	–	43
Venezuela	tonnes	–	–	–	–	–	60	269	1 244	2 172	677	1 767
	£'000	–	–	–	–	–	7	29	145	262	102	277
Australia	tonnes	–	–	155	173	73	15	–	–	–	–	–
	£'000	–	–	17	19	9	2	–	–	–	–	–
New Zealand	tonnes	–	44	25	–	–	45	–	–	33	27	20
	£'000	–	5	3	–	–	6	–	–	4	4	3
Other Countries	tonnes	17	53	173	58	77	175	252	346	577	107	193
	£'000	2	6	19	7	7	14	26	36	57	16	31

– Nil or negligible

Source: *Maandstatistiek Van De In-Uit-Voer* Centraal Bureau Voor De Statistiek

Table A30

Rapeseed oil: Exports from Belgium/Luxembourg

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Refined	tonnes	–	–	–	–	–	11	321	1 228	564	450	1 638
	£'000	–	–	–	–	–	1	27	98	50	63	266
Raw	tonnes	3	1	17	9	5	–	802	165	21	481	790
	£'000	–	–	2	1	1	–	64	11	2	58	85
Totals	tonnes	3	1	17	9	5	11	1 123	1 393	585	931	2 428
	£'000	–	–	2	1	1	1	91	109	52	121	351
of which to:–												
France	tonnes	–	–	–	–	–	–	254	1 052	558	427	2 409
	£'000	–	–	–	–	–	–	20	79	49	63	347
Italy	tonnes	–	–	–	–	–	–	720	–	–	299	–
	£'000	–	–	–	–	–	–	58	–	–	36	–
United Kingdom	tonnes	–	–	–	–	–	–	–	–	–	156	–
	£'000	–	–	–	–	–	–	–	–	–	20	–
Other Countries	tonnes	3	1	17	9	5	11	149	341	27	49	19
	£'000	–	–	2	1	1	1	13	30	3	2	4

– Nil or negligible

Source: *Commerce Extérieur* L'Institut National De Statistique

Table A31

Rapeseed cake and meal (Including mustard and colza): Imports into France

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Totals	tonnes	1 546	10 616	16 872	5 200	5 596	2 742	4 928	2 037	196	5 674
	£'000	24	212	390	122	145	63	117	66	5	174
of which from:–											
Belgium/Luxembourg	tonnes	–	–	–	–	781	200	701	264	–	551
	£'000	–	–	–	–	26	5	19	8	–	21
German Federal Republic	tonnes	–	600	2 784	216	–	–	–	–	–	–
	£'000	–	14	64	5	–	–	–	–	–	–
Italy	tonnes	–	7 320	11 423	4 693	3 812	2 306	3 288	1 015	...	3 880
	£'000	–	154	260	109	88	50	78	26	...	120
Netherlands	tonnes	–	–	–	–	–	216	–	–	–	–
	£'000	–	–	–	–	–	7	–	–	–	–
Turkey	tonnes	–	389	–	–	–	–	–	–	–	–
	£'000	–	10	–	–	–	–	–	–	–	–
USSR	tonnes	–	–	–	–	–	–	–	153	–	–
	£'000	–	–	–	–	–	–	–	5	–	–
Pakistan	tonnes	1 520	2 019	255	–	–	–	454	–	–	–
	£'000	23	28	5	–	–	–	7	–	–	–
Algeria	tonnes	–	–	387	–	–	–	–	–	–	273
	£'000	–	–	12	–	–	–	–	–	–	9
Cameroun	tonnes	–	–	–	–	–	–	199	–	–	–
	£'000	–	–	–	–	–	–	6	–	–	–
Morocco	tonnes	–	–	–	291	739	–	286	–	–	496
	£'000	–	–	–	8	22	–	7	–	–	16
Argentina	tonnes	–	–	829	–	–	–	–	–	–	–
	£'000	–	–	21	–	–	–	–	–	–	–
Brazil	tonnes	–	–	–	–	–	–	–	–	–	474
	£'000	–	–	–	–	–	–	–	–	–	8
Chile	tonnes	–	–	1 184	–	–	–	–	–	–	–
	£'000	–	–	27	–	–	–	–	–	–	–
USA	tonnes	–	–	–	–	224	–	–	605	–	–
	£'000	–	–	–	–	8	–	–	27	–	–
Other Countries	tonnes	26	288	10	–	40	20	–	–	196	–
	£'000	1	6	1	–	1	1	–	–	5	–

– Nil or negligible ... Information not shown

Source: *Commerce Extérieur* Direction Générale des Douanes et Droits Indirectes

Table A32

Rapeseed cake and meal: Imports into the German Federal Republic

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	18 876	36 158	27 651	41 329	43 367	49 556	53 583	26 506	28 531	65 824	67 856
	£'000	344	728	734	1 050	1 072	1 165	1 358	762	768	2 057	2 005
of which from:—												
Austria	tonnes	199	1 463	1 133	–	–	–	–	–	–	–	–
	£'000	3	29	28	–	–	–	–	–	–	–	–
Denmark	tonnes	–	–	–	–	–	–	1 204	1 090	1 413	477	379
	£'000	–	–	–	–	–	–	31	30	39	15	14
Finland	tonnes	–	1 090	–	–	–	–	–	–	–	–	–
	£'000	–	25	–	–	–	–	–	–	–	–	–
France	tonnes	1 718	1 673	2 912	3 885	4 143	2 548	1 023	6 278	4 043	7 323	3 372
	£'000	29	32	74	97	110	60	27	177	108	228	115
Italy	tonnes	6 161	18 715	15 629	17 244	32 892	33 526	40 127	15 423	21 028	47 588	51 516
	£'000	119	380	412	445	801	783	1 009	443	566	1 481	1 505
Netherlands	tonnes	–	1 301	201	–	116	–	1 084	165	64	2 432	4 432
	£'000	–	29	6	–	4	–	29	5	2	80	145
Turkey	tonnes	–	710	169	–	–	–	–	–	–	–	–
	£'000	–	9	5	–	–	–	–	–	–	–	–
Bulgaria	tonnes	2 532	–	–	–	–	–	–	–	–	–	–
	£'000	41	–	–	–	–	–	–	–	–	–	–
Hungary	tonnes	–	–	–	–	389	–	–	–	–	–	–
	£'000	–	–	–	–	9	–	–	–	–	–	–
Poland	tonnes	476	1 535	–	–	–	–	1 098	1 074	1 078	850	8 038
	£'000	7	22	–	–	–	–	28	30	30	26	223
Pakistan	tonnes	134	682	62	395	–	–	449	–	–	–	–
	£'000	2	13	1	9	–	–	12	–	–	–	–
Algeria	tonnes	7 206	5 192	5 267	8 321	596	497	–	–	–	994	–
	£'000	134	107	148	218	16	12	–	–	–	31	–
Ethiopia	tonnes	149	–	–	–	–	–	–	–	–	468	–
	£'000	3	–	–	–	–	–	–	–	–	12	–
Sudan	tonnes	–	–	–	504	–	–	–	–	–	–	–
	£'000	–	–	–	12	–	–	–	–	–	–	–
Argentina	tonnes	322	99	592	2 534	255	–	–	–	–	209	–
	£'000	6	2	15	63	6	–	–	–	–	7	–
Chile	tonnes	68	2 818	1 632	8 254	4 955	12 598	7 928	2 655	881	3 837	–
	£'000	2	53	43	200	126	300	205	77	22	121	–
Other Countries	tonnes	60	18	54	192	21	142	173	1	24	46	119
	£'000	1	10	2	6	–	4	4	–	1	2	3

– Nil or negligible

Source: *Der Aussenhandel* Statistisches Bundesamt

Table A33

Rapeseed cake and meal: Imports into Netherlands

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	25 596	25 272	33 764	21 859	26 443	46 363	26 786	40 169	59 690	35 677	67 037
	£'000	417	455	750	505	604	1 055	650	1 080	1 532	1 004	1 856
of which from:—												
Belgium/Luxembourg	tonnes	110	–	6	–	108	526	5	–	46	42	–
	£'000	3	–	–	–	2	8	–	–	1	1	–
France	tonnes	2 850	–	–	–	–	10 575	3 818	11 729	26 452	8 704	32 347
	£'000	43	–	–	–	–	234	92	313	676	253	898
German Federal Republic	tonnes	2 259	1 085	2 613	2 159	9 794	10 760	7 294	15 681	24 314	17 570	24 184
	£'000	36	22	63	51	236	254	177	425	635	516	707
Italy	tonnes	794	806	–	–	359	–	259	1 845	824	–	938
	£'000	14	16	–	–	10	–	7	49	21	–	22
Turkey	tonnes	–	–	57	880	–	577	747	98	–	–	–
	£'000	–	–	2	23	–	15	17	3	–	–	–
United Kingdom	tonnes	–	–	–	714	201	–	–	–	–	–	–
	£'000	–	–	–	10	3	–	–	–	–	–	–
Pakistan	tonnes	5 860	13 128	16 596	11 881	9 657	10 473	7 623	2 234	161	–	–
	£'000	95	228	350	267	190	243	186	57	4	–	–
Algeria	tonnes	6 924	1 047	2 558	269	845	515	–	–	–	–	–
	£'000	111	18	60	6	20	12	–	–	–	–	–
Ethiopia	tonnes	4 565	5 470	8 713	4 980	3 551	4 472	3 998	4 998	4 363	2 859	2 365
	£'000	78	107	204	127	91	106	95	137	109	80	61
Morocco	tonnes	–	–	197	–	–	449	–	–	823	981	986
	£'000	–	–	4	–	–	10	–	–	21	34	25
Argentina	tonnes	964	–	340	235	640	562	–	–	389	123	1 074
	£'000	16	–	8	4	15	12	–	–	9	5	26
Canada	tonnes	26	–	–	–	–	–	–	100	721	4 214	4 264
	£'000	1	–	–	–	–	–	–	2	14	78	93
Chile	tonnes	830	3 307	2 556	260	1 044	7 157	1 810	3 343	1 405	640	10
	£'000	13	55	57	6	30	156	46	91	35	20	2
Other Countries	tonnes	414	429	128	481	244	297	1 232	141	192	544	869
	£'000	7	9	2	11	7	5	30	3	7	17	22

– Nil or negligible

Source: *Maandstatistiek van de In-Uit-Voer* Centraal Bureau voor de Statistiek

Table A34

Rapeseed cake and meal: Imports into Belgium and Luxembourg (a)

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	16 633	18 655	17 110	17 437	24 878	36 601	30 723	38 950	43 387	35 130	63 838
	£'000	288	395	417	446	629	842	764	1 080	1 117	1 152	1 936
of which from:												
France	tonnes	14 131	5 766	2 138	4 937	17 304	28 457	20 341	32 087	36 785	29 600	62 192
	£'000	243	118	55	123	441	665	502	890	948	980	1 880
German Federal Republic	tonnes	–	5 103	6 469	6 755	4 395	–	5 943	–	6 097	–	–
	£'000	–	115	156	175	111	–	150	–	156	–	–
Italy	tonnes	–	1 935	–	–	–	–	–	–	–	–	–
	£'000	–	41	–	–	–	–	–	–	–	–	–
Netherlands	tonnes	331	1 479	748	598	370	–	–	–	–	–	–
	£'000	7	35	19	18	12	–	–	–	–	–	–
Pakistan	tonnes	–	–	1 214	695	–	–	–	–	–	–	–
	£'000	–	–	26	16	–	–	–	–	–	–	–
Algeria	tonnes	–	2 521	4 854	1 292	–	–	–	–	–	–	–
	£'000	–	51	122	35	–	–	–	–	–	–	–
Chile	tonnes	–	865	1 687	2 995	1 391	–	–	–	–	–	–
	£'000	–	17	39	74	34	–	–	–	–	–	–
Other Countries	tonnes	2 171	986	–	165	1 418	8 144	4 439	6 863	505	5 530	1 646
	£'000	38	18	–	5	31	177	112	190	13	172	56

Notes: (a) Includes cake and meal from similar seeds — Nil or negligible

Source: *Commerce Extérieur* L'Institut National de Statistique

Table A35

Cake and meal of colza, rape, mustard and other crucifers: Exports from France

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Totals	tonnes	19 988	6 997	5 070	9 644	30 755	59 217	40 224	77 997	99 886	65 159
	£'000	330	140	126	233	769	2 330	957	2 096	2 469	2 027
of which to:—											
Belgium/Luxembourg	tonnes	14 638	5 613	2 168	4 882	17 296	28 800	21 187	31 533	36 558	29 352
	£'000	247	113	56	119	433	661	511	864	919	957
Denmark	tonnes	—	—	—	—	—	1 823	—	500	—	1 340
	£'000	—	—	—	—	—	39	—	11	—	38
German Federal Republic	tonnes	1 771	1 384	1 902	4 133	4 246	2 115	1 244	6 789	4 037	5 949
	£'000	29	27	47	101	111	49	32	188	101	184
Irish Republic	tonnes	—	—	—	—	—	376	—	—	—	—
	£'000	—	—	—	—	—	10	—	—	—	—
Italy	tonnes	—	—	—	—	—	—	—	335	—	—
	£'000	—	—	—	—	—	—	—	9	—	—
Netherlands	tonnes	2 850	—	1 000	—	230	11 682	3 662	12 666	27 028	11 875
	£'000	42	—	23	—	8	255	87	335	671	333
Norway	tonnes	—	—	—	—	2 164	4 104	10 719	10 091	11 345	10 185
	£'000	—	—	—	—	58	89	248	281	265	310
Portugal	tonnes	—	—	—	—	492	2 670	—	—	—	—
	£'000	—	—	—	—	11	58	—	—	—	—
Sweden	tonnes	720	—	—	—	—	886	—	—	—	—
	£'000	11	—	—	—	—	18	—	—	—	—
United Kingdom	tonnes	—	—	—	629	6 271	5 495	3 392	15 698	20 918	6 458
	£'000	—	—	—	13	146	122	79	399	513	205
Other Countries	tonnes	9	—	—	—	56	1 266	20	385	—	—
	£'000	1	—	—	—	2	29[a]	—	9	—	—

Notes: (a) Including exports to Spain 1 249 met. tons valued £27 600 — nil or negligible

Source: *Commerce Extérieur,* Direction Generale des Douanes et Droit Indirectes

Table A36

Rapeseed and colza cake and meal: Exports from the German Federal Republic

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	21 563	19 722	36 278	23 170	37 747	39 820	37 762	50 131	66 011	40 452	58 140
	£'000	352	442	864	565	972	943	905	1 381	1 656	1 161	1 725
of which to:—												
Austria	tonnes	–	–	–	–	–	–	–	315	–	–	–
	£'000	–	–	–	–	–	–	–	11	–	–	–
Belgium/Luxembourg	tonnes	–	4 852	6 792	6 448	4 829	3 025	6 363	6 310	6 069	2 518	820
	£'000	–	103	158	160	124	72	154	171	151	72	26
Denmark	tonnes	2 652	1 680	5 565	4 271	4 730	6 188	7 447	8 550	9 870	7 458	21 945
	£'000	43	34	123	102	115	143	174	238	263	212	663
France	tonnes	–	380	2 433	568	–	–	–	250	–	–	–
	£'000	–	8	53	13	–	–	–	7	–	–	–
Netherlands	tonnes	2 001	1 125	2 647	2 156	8 280	11 942	7 851	15 248	22 733	17 837	21 242
	£'000	31	21	62	47	206	284	191	416	586	521	656
Norway	tonnes	5 644	3 971	14 717	6 964	19 508	8 287	4 226	4 131	7 461	6 482	3 016
	£'000	84	93	374	173	516	197	100	120	185	181	95
Sweden	tonnes	7 946	840	–	–	–	8 597	1 039	–	–	–	1 341
	£'000	140	15	–	–	–	204	24	–	–	–	31
United Kingdom	tonnes	3 260	6 874	4 124	2 763	399	1 779	10 836	15 327	19 878	6 059	9 776
	£'000	53	168	94	72	11	43	262	418	471	168	254
Iran	tonnes	–	–	–	–	–	–	–	–	–	98	–
	£'000	–	–	–	–	–	–	–	–	–	7	–
Other Countries	tonnes	60	–	–	–	1	2	–	–	–	–	–
	£'000	1	–	–	–	–	–	–	–	–	–	–

– Nil or negligible

Source: *Der Aussenhandel* Statistisches Bundesamt

Table A37

Rape and colza cake and meal: Exports from Italy

Information not available before date shown		1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	43 601	31 875	25 303	52 428	67 744	82 857	30 792	32 966	68 784	75 385
	£'000	836	755	628	1 192	1 408	1 863	813	824	1 939	2 036
of which to:–											
Austria	tonnes	311	681	2 377	4 137	7 632	7 226	3 036	4 995	6 812	8 441
	£'000	6	16	57	93	159	152	79	125	184	226
France	tonnes	7 300	10 931	4 355	3 934	2 258	4 303	1 000	98	3 490	7 859
	£'000	148	252	103	90	48	98	26	3	106	22
German Federal Republic	tonnes	16 007	16 292	14 461	31 170	34 914	36 994	13 387	20 904	45 506	49 800
	£'000	331	403	369	726	756	849	368	533	1 305	1 337
Netherlands	tonnes	1 918	–	–	416	–	270	–	3 600	–	–
	£'000	31	–	–	10	–	6	–	80	–	–
Norway	tonnes	757	–	–	–	1 198	16 139	3 299	–	2 907	2 085
	£'000	13	–	–	–	23	348	84	–	81	60
Sweden	tonnes	2 409	–	–	–	–	2 534	–	–	–	–
	£'000	36	–	–	–	–	51	–	–	–	–
Switzerland	tonnes	1 553	3 791	4 088	2 731	2 436	3 374	1 338	398	348	1 574
	£'000	28	79	98	62	51	77	36	10	11	39
United Kingdom	tonnes	12 043	–	21	8 859	15 729	9 814	7 732	1 950	8 438	3 584
	£'000	217	–	1	184	298	230	193	50	217	94
Czechoslovakia	tonnes	–	–	–	–	–	–	–	20	1 247	2 041
	£'000	–	–	–	–	–	–	–	1	34	58
Hungary	tonnes	496	–	–	–	1 942	–	1 000	–	–	–
	£'000	11	–	–	–	41	–	27	–	–	–
Yugoslavia	tonnes	–	–	–	993	1 490	209	–	–	–	–
	£'000	–	–	–	23	30	3	–	–	–	–
USA	tonnes	–	–	–	98	–	100	–	–	36	–
	£'000	–	–	–	2	–	2	–	–	1	–
Other Countries	tonnes	807	180	1	90	145	1 894	–	1 001	–	–
	£'000	15	5	–	2	2	47	–	22	–	–

– Nil or negligible

Source: *Comercio con L'Estro*, Instituto Centrale di Statistica

Table A38

Rapeseed cake and meal: Exports from the Netherlands

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	411	2 796	2 253	661	407	2 589	1 438	409	697	3 362	5 242
	£'000	9	69	58	19	12	66	39	12	14	110	157
of which to:—												
Belgium/Luxembourg	tonnes	328	1 066	714	629	391	460	115	220	–	1 310	–
	£'000	7	26	19	18	11	12	3	4	–	43	–
Denmark	tonnes	–	241	375	–	–	630	–	–	–	–	–
	£'000	–	6	9	–	–	17	–	–	–	–	–
German Federal Republic	tonnes	83	1 063	1 164	–	–	568	1 318	187	697	1 925	5 242
	£'000	2	26	30	–	–	14	35	5	14	62	157
Gibralter	tonnes	–	–	–	–	–	–	–	–	–	126	–
	£'000	–	–	–	–	–	–	–	–	–	4	–
United Kingdom	tonnes	–	426	–	–	–	931	–	–	–	–	–
	£'000	–	11	–	–	–	23	–	–	–	–	–
Other Countries	tonnes	–	–	–	32	16	–	5	2	–	1	–
	£'000	–	–	–	1	1	–	1	3	–	1	–

– nil or negligible

Source: *Maandstatistiek van de In-Uit-Voer* Centraal Bureau voor de Statistiek

Table A39

Rapeseed cake and meal: Exports from Belgium and Luxembourg (a)

		1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Totals	tonnes	122	94	34	14	40	471	639	344	185	203	616
	£'000	3	2	1	1	1	11	16	10	5	6	5
of which to:—												
France	tonnes	—	—	—	—	—	249	634	344	—	181	—
	£'000	—	—	—	—	—	6	16	10	—	5	—
German Federal Republic	tonnes	—	—	—	—	—	222	—	—	—	—	—
	£'000	—	—	—	—	—	5	—	—	—	—	—
Netherlands	tonnes	122	94	6	—	—	—	—	—	—	—	—
	£'000	3	2	—	—	—	—	—	—	—	—	—
Other Countries	tonnes	—	—	28	14	40	—	5	—	185	22	616
	£'000	—	—	1	1	1	—	—	—	5	1	5

Notes: — nil or negligible (a) Includes cake and meal from similar seeds

Source: *Commerce Extérieur* L'Institut National de Statistique

Appendix B

The UK and EEC tariffs applicable at 1 January 1975

Brussels Nomenclature	Item	Import Duties (per cent *ad valorem*) UK Full	UK Preferential	EEC/CCT autonomous	EEC/CCT conventional
				% or levy (L)	(a)
15.07	Fixed vegetable oils, fluid or solid, crude, refined or purified.				
	Rapeseed oil: for technical or industrial uses other than the manufacture of foodstuffs for human consumption				
	crude	9.0%	M. 6.0% C1. 3.0% C2. Free	5% (1)(2)	5% (1)
	other	10.8%	M. 6.0% C1. 4.8% C2. Free	8% (1)(2)	8% (1)
	Rapeseed oil: solid, in immediate packings of a net capacity of 1 kg or less	16.0%	M. 4% C1. 12% C2. Free	20% (2)	–
	solid, other, fluid crude	12.0%	M. 6% C1. 6% C2. Free	10% (2)	10%
	other	15.0%	M. 6% C1. 9% C2. Free	15% (2)	15%
23.04	Rapeseed meal (including pelletised meal)	40.0%	C1. } Free C2. }	Free	Free

Notes: (a) The customs duties applicable to imported goods originating in countries which are Contracting Parties to the General Agreement on Tariffs and Trade or with which the EEC has concluded agreements containing the most favoured nation tariff clause shall be the conventional duties (or duties resulting from conventions;) until such time as a common trade policy enters into force in this respect, the "conventional" rates shall apply to goods other than those referred to above, imported from any third country. Where no "conventional" duty is shown against a heading or subheading, or where the rate of the "conventional" duty is higher than that of the autonomous duty, duty shall be chargeable at the rate of the autonomous duty.

(1) Entry under this heading is subject to conditions to be determined by the competent authorities.

(2) In certain conditions, the collection of a compensatory amount is provided for in addition to the customs duty.

M. Preferential rate at which goods consigned from EEC countries may enter the U.K.

C1. Rate of duty applicable to all goods from countries formerly in the Commonwealth Preference Area.

C2. Rate of duty applicable to goods from those countries listed in Appendix C, and those from the Republic of Ireland and Channel Islands.

Appendix C

The Annex VI Countries

List of countries of the Commonwealth Preference Area to whom preferential rates of duty apply under symbol C2. of preferential duties in the UK tariff.

Bahamas
Barbados
Belize
Bermuda
Botswana
British Antarctic Territory
British Indian Ocean Territory
British Solomon Islands
British Virgin Islands
Brunei
Cayman Islands
Central & Southern Line Islands
Channel Islands
Cyprus
Falkland Islands & Dependencies
Fiji
The Gambia
Ghana
Gilbert & Ellice Islands
Guyana
Jamaica
Lesotho
Malawi
Mauritius
Montserrat
Nigeria
Papua New Guinea
Pitcairn
Republic of Ireland
St. Helena & Dependencies
Sierra Leone
Swaziland
Tanzania
Tonga
Trinidad and Tobago
Turks & Caicos Islands
Uganda
Western Samoa
Zambia
Associated States in the Caribbean:
Antigua, Dominica, Grenada, St. Lucia, St. Vincent, St. Christopher Nevis, Anguilla

Appendix D

The Lomé Convention

List of the forty-six countries in Africa, the Caribbean and the Pacific (the ACP) which are included in the Convention.

Bahamas
Barbados
Botswana
Burundi
Cameroon
Central African Republic
Chad
Congo
Dahomey
Equatorial Guinea
Ethiopia
Fiji
Gabon
Gambia
Ghana
Grenada
Guinea
Guinea Bissau
Guyana
Ivory Coast
Jamaica
Kenya
Lesotho
Liberia
Malagasy Republic
Malawi
Mali
Mauritania
Mauritius
Niger
Nigeria
Rwanda
Senegal
Sierra Leone
Somalia
Swaziland
Sudan
Tanzania
Togo
Tonga
Trinidad and Tobago
Uganda
Upper Volta
Western Samoa
Zaire
Zambia

Appendix E

Trade associations and importers of rapeseed and rapeseed by-products in the UK and EEC

Note: The following list gives the names of some of the firms which are known to the Tropical Products Institute to be trading in this commodity, but the list should not be regarded as exhaustive. Inclusion in the list does not imply that TPI has any knowledge of the financial standing of the firms.

TRADE ASSOCIATIONS IN THE UK

Seed Crushers' and Oil Processors' Association
1/2 Castle Lane
Buckingham Gate
London SW1E 6DL

Federation of Oils Seeds and Fats Associations Ltd (FOSFA)
24 St Mary Axe
London EC3A 8ER

Grain and Feed Traders Association Ltd (GAFTA)
Baltic Exchange Chambers
28 St Mary Axe
London EC3A 8EP

RAPESEED (Importers and seed crushers). The companies marked with an asterisk are seed crushers.

T. D. Bailey & Sons Limited
56 Moorgate
London EC2R 6EX

J. Bibby & Sons Ltd*
57 Great Howard Street
Liverpool L3 7AW

BOCM Silcock Ltd (Unilever)*
Basing View
Basingstoke
Hants

Chambers and Fargus Limited*
189–197 Wincolmlee
Hull
Yorks HU2 0QA

Clyde Oil Extraction Ltd*
King George V Dock
Glasgow
SW1

Continental (London) Ltd
Creechurch House
Creechurch Lane
London EC3A 5DR

Croda Premier Oils Ltd*
Ann Watson Street
Stoneferry
Hull HU8 0BJ

Unilever (Raw Materials) Ltd
Unilever House
Blackfriars
London EC4

Bunge & Co. Limited,
Bunge House
St. Mary Axe
London EC3

Edible Oil Products (UK) Ltd (oil only)
30 Orchard Place
London E14 0JH

European Grain and Shipping Ltd
16 Finsbury Circus
London
EC2M 7BY

Faure Fairclough Ltd
14/18 Holborn
London EC21N 2PR

Frank Fehr & Co Ltd
Prince Rupert House
64 Queen Street
London EC4R 1ER

Macleod-Frentzel & Co Ltd (vegetable protein for animal feed only)
2 Corn Exchange Chambers
Seething Lane
London EC3

Oriel Central Oil Co Ltd (oil only)
Oriel Street,
Liverpool L69 3HZ

Powell Union Produce Ltd (seed and meal)
71 St Mary Axe
London EC3A 8AX

J. H. Rayner (Mincing Lane) Ltd (seed and meal)
50 Mark Lane
London EC3R 7RJ

Tradax England Limited
3rd Floor
Kempson House
35/37 Camomile Street
London EC3

EUROPEAN TRADE ASSOCIATIONS

Companies trading in rapeseed or rapeseed products were not consulted for this report but as in the UK a number of trade federations exist which could be of use to potential exporters and these are listed below:—

Seed Crushers' Associations

Belgium
Federation des Fabricants d'Huiles de Belgique
Rue de la Loi 83
1040 Brussels

France
Syndicat General des Fabricants d'Huile et de Torteaux de France
10 Rue de la Paix
Paris 2

Germany
Verband Deutscher Oelmuhlen e.V.
53 Bonn-Bad Godesberg 1
Kronprinzenstrasse 24

Italy
Associazioni Italiana dell'Industria Olearia
3 Via del Governo Vecchio
Piazza dell'Orologio
00186 Rome

Netherlands
Vereniging van Nederlandse Oliefabrikanten
Raamweg 44
The Hague

Animal Feed Trade Associations

European
Federation Européene des Fabricants d'Aliments Composés pour Animaux (FEFAC)
(European Feed Manufacturers Association)
Rue de la Loi 223
B-1040 Brussels
Belgium

European Federation of Animal Protein Importers
C/O Verein der Getreidehandler der Hamburgen Borse e.V.
Borse 24
Hamburg 11

Belgium	Association Professionelle des Fabricants d'Aliments Composés pour Animaux (APFACA) Rue de l'Hôpital 31 1000 Brussels
France	Syndicat des Industriels de l'Alimentation Animale (SNIA) 41 bis Bd de Latour Maubourg 75 Paris 7eme
Germany	Fachverband der Futtermittellindustrie e.v. Borsenbrücke 2a 2,000 Hamburg 11
Italy	Associazione Nazionale Trai i Produttori di Alimenti Zootecnici (Assalzoo) Vicolo S. Maria Alla Porta 1 Milano Via Boncompagni 16 Roma 00187
Netherlands	Vereniging van Nederlandse Mengvoederfabrikanten (Association of Netherlands Animal Feeding Stuffs Manufacturers) Johan de Witt Laan 12 P.O. Box 9477 Den Haag

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